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THE SOUTHERN PLANTER,

Devoted to Agriculture, Horticulture, and the Household Arts.

Agriculture is the nursing mother of the Arts.—*Xenophon.*

Tillage and Pasturage are the two breasts of the State.—*Sully.*

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R. B. GOOCH, EDITOR.

P. D. BERNARD, PROPRIETOR.

TERMS.

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MR. NEWTON'S MARYLAND ADDRESS.

We find in the address of the Hon. Willoughby Newton, delivered before the Maryland Society on the 25th of last October, all the merits which were attributed to it at the time by the press of Baltimore city. It puts forward valuable and practical information in a style remarkable for strength and terseness. In speaking of the state of agriculture in Maryland and Virginia, he says:

"It has been very much the fashion of late, with a certain class of writers, whose views are readily adopted by the unthinking multitude, to decry the state of agriculture among us. Maryland and Virginia are a usually selected, by way of illustration. A few half-observed facts are hastily collected, dignified with the name of statistics, and in defiance of the true principles of the Baconian philosophy, made the foundation of a comprehensive theory. A stranger, who has never visited our cheerful firesides, seen our well tilled fields, or enjoyed the elegant hospitality of our refined and enlightened people, has no conception of our true condition. He has been taught to believe that poverty grass, broom straw and old field pines, constitute our chief productions. And because our population has not kept pace with that of the manufacturing States of the East, or the new and teeming West, we are supposed to have reached a premature decay, exhibiting a melancholy pic-

ture of homes abandoned, flocks dispersed, and lands desolate and uncultivated. Moral and political philosophers, eager to build a system, taking this to be our true condition, immediately set about to account for it. Some, with ready zeal in the cause of a sentimental philanthropy, find this blighting curse in our peculiar institutions, and the species of labor with which our fields are cultivated; others, who deem our labor the best and most productive in the world, trace, with certainty, our supposed decline to the grinding influence of Northern monopoly, and would find for it an effectual remedy in unlimited free trade; whilst a third class, at the head of which stands the Nestor of the agricultural press, attributes it, with equal confidence, to the dispersion of our population, and the separation of 'the plough, the loom and the anvil,' and thinks we can be relieved from our condition of degrading inferiority, only by an 'efficient tariff of protection.'

"There appeared, some years ago, in the *Encyclopedia Americana*, an article entitled 'A general description of Virginia,' attributed to the pen of a distinguished gentleman, a native of the county of Northumberland, now a resident of the city of Richmond.* In this paper, which now forms a part of the history and literature of the country, and has doubtless had great influence in forming opinion as to the agricultural condition and resources of Virginia, we are informed, that 'in very many instances, agriculture, among us, affords a bare subsistence, whilst in others it yields a net profit of from 2 to 3 per cent.; and of Eastern Virginia it is said that 'it is in general low, level, sandy and unproductive, and parts of it exhibit almost as desolate an aspect as the pine barrens of Jersey.' The views expressed by this author were derived, in part, from the information of others, but may be mainly attributed to the

* The author alluded to is understood to be Jas. E. Heath Esq. The fact has been made public before.—ED. PLANTER.

strong impression made upon his youthful mind by the pine forests and wasted fields over which he gambolled in his boyhood. If this gentleman could now revisit the scenes of his youthful sports, he would find that the forests of pine and fields of broom-straw, that so unfavorably impressed him, have given place to luxuriant crops of grass and grain; and his credulity would be taxed to the utmost when informed that the hopelessly barren spot of his nativity has been so improved that for a series of years the entire farm has yielded an average of more than 20 bushels of wheat to the acre; in one instance, as much as twenty-five bushels, through the entire crop, and upon the most highly improved part of the field as much as forty bushels to the acre. He would also learn that these improvements are not confined to a single favored spot, but are extending over the larger portion of Eastern Virginia, and especially that portion heretofore regarded as most unproductive. In this part of Virginia, people are beginning to learn—what experience sooner or later will teach the settlers of all new countries—that the black mucky soils, rich in humus and covered with a rank vegetation, so alluring to those in search of fertile lands, are by no means the most valuable. They have discovered a hidden treasure in their poorest lands, and ascertained by experience that the region of which Beverly, the historian, gives so unpromising a description, extending throughout Eastern Virginia and Maryland, and familiarly called the ‘forest,’ because the last to be cleared by our ancestors, is susceptible of the very highest improvement, and may be cultivated at a rate of profit on the capital invested, almost beyond credibility.

“The most perfect husbandry is not always the most profitable; and in estimating the state of agriculture among any people, we should never lose sight of the circumstances by which they are surrounded. The neat, garden-like culture of the Flemings, and of some of the most highly improved counties of England and Scotland, can only be attained, with profit, in a densely peopled country. A farm thus cultivated, among us, may please the eye or gratify the taste of an amateur, but the proprietor will soon be convinced that without other means of supporting a family, he must become bankrupt. Hence the high-pressure farming which we occasionally see in the neighborhood of our cities, is rarely successful. With the most perfect

implements and machinery, the finest and most fashionable varieties of live stock, and the most convenient, elegant, and well arranged farm buildings, the proprietor is surprised that he realizes no profit on his large investments, and abandons agriculture in disgust, as utterly unproductive. The truth is, our farmers cannot afford to sacrifice utility to mere taste. With families to support, and children to educate, they are under the necessity of drawing from their estates a considerable cash income, and this can only be done by combining economy with efficiency, in all their operations. In this view of the subject, our agriculture is by no means as bad as it has been represented. Our farms may not be cultivated in the Flemish style; our live stock may not all be of the most approved varieties, nor our machinery and farm buildings of the most elegant and expensive kinds, yet I venture the assertion, with entire confidence, that we have in Maryland and Virginia as good practical farmers, and as profitable farming, taking into view the capital invested, as are to be found in any quarter of the world.”

After following up the picture given above, Mr. Newton proceeds to remark upon the summing up of the theory of agriculture as given by a Scotch writer, who puts the matter in these words “Keep your lands *dry, clean and rich.*” We quote that portion of his remarks upon the injunction “Keep your lands *rich,*” which relates more particularly to his own experience in the use of fertilizers:

“Calcareous matter is the great want of most of our lands, and in some form is essential to permanent improvement. It should be regarded as the basis of all our operations, and never to be dispensed with for any substitute. From long experience in the use of lime, I am satisfied that the French plan, of light and frequent dressings, is not only much more economical, but much safer, in our climate, than the heavy dressings common in Great Britain. Fifty bushels of slaked lime to the acre, I have found amply sufficient for any of our lands, and a greater quantity often attended with injury to the soil and crops, whilst twenty-five bushels will answer every purpose on thin lands, deficient in vegetable matter. Ashes, bone dust, and the various marine manures that abound on the shores of the Chesapeake and its tributaries, will be found important auxiliaries in the work of ‘keeping your lands rich,’ whilst the ne-

cessity of clover and the proper grasses, to any system of permanent improvement, is too obvious to require comment.

"The various manures compounded by chemists and manufacturers, should also engage your careful attention. They should not be recklessly thrown aside as humbugs, without trial or investigation, nor adopted and extensively used with blind confidence in their efficacy. I have used many of these manures by way of experiment, and the profit realized upon them has not justified me in enlarging my operations. Poudrette, manufactured in Baltimore; Bommer's manure, Chappel's fertilizer and Kentish & Co.'s prepared guano, in my hands, (used, it is true, upon a small scale,) have not realized the promises made in their behalf. Yet I would by no means discourage the praiseworthy efforts of the manufacturers, and hope they will persevere until, by lessening the bulk and increasing the power of their compounds, they may be able to prepare an article that for cheapness, convenience of application and efficacy, shall equal or surpass the best Peruvian guano.

"In the effect of *guano*, especially the Peruvian, I have never been disappointed. I have used it now for four years, with entire satisfaction, having each year been induced to enlarge my expenditure, until last year it reached eight hundred dollars, and for the crop of wheat this fall it exceeds one thousand. I have observed with astonishment its effect in numerous instances, on the poor 'forest lands,' alluded to in a former part of this address. What the turnip and sheep husbandry have done for the light lands of Great Britain, the general use of guano promises to do for ours. Lands a few years ago deemed entirely incapable of producing wheat, now produce the most luxuriant crops. From 15 to 20 bushels for one sowed, is the ordinary product on our poorest lands, from the application of 200 lbs. of Peruvian Guano. I may remark, it is not usual, in Eastern Virginia, to sow more than a bushel of wheat to the acre, and that I deem amply sufficient. Upon this subject I hope a few details may not be considered tedious or uninteresting. I applied last fall \$350 worth of guano, partly Peruvian and partly Patagonian, on a poor farm in 'the forest,' which cost a few years ago four dollars an acre, and reaped 1089 bushels of beautiful wheat from 78 sowed. Forty-six bushels were sowed on fallow, (both guano and wheat put in with the cultivator, followed by a

heavy harrow,) and yielded 790 bushels, or over 17½ for one. A considerable part of this was dressed with Patagonian guano, and was much inferior to the other portion. A lot on which 15 bushels were sowed, and dressed with Peruvian guano, was threshed separately, and yielded 301 bushels, or over twenty for one. The whole cost of the farm was \$1520, and I have good reason to expect, with a favorable season, from the crop now sowed and dressed with guano, a bushel of wheat for every dollar of the prime cost of the farm. Many other instances of profit from the use of guano, equally striking, have occurred among my neighbors and friends, but I confine myself to those stated, because having come under my immediate observation, I can vouch for their entire accuracy. It has been frequently objected to the use of guano that it is not permanent. It would be unreasonable to expect great permanent improvement from a manure so active, and yielded so large a profit on the first crop. Yet I have seen some striking evidences of its permanency in heavy crops of clover, succeeding wheat, and in the increase of the crop of wheat on a second application. As an instance, I may mention that two years ago I sowed upon a single detached acre of 'forest land,' one bushel of wheat, and dressed it with a barrel of African guano, costing \$4, and the yield was seventeen bushels. Last fall the same land, after remaining one year in clover, was again sowed with one bushel of wheat and dressed with 140 lbs. of Peruvian guano, costing \$3, and the product was 22 bushels. Yet I would advise no one to rely upon guano exclusively. Its analysis shows that it contains salts of ammonia, alkaline phosphates and the other mineral elements necessary to produce the grain of wheat, but is deficient in most of the elements of the straw and roots of the plants. Hence, (says Liebig) 'a rational agriculturist, in using guano, cannot dispense with stable dung.' We should, therefore, be careful not to exhaust the soil of organic manures, but by retaining the straw of the wheat, and occasionally a crop of clover, which plant contains a large percentage of the alkaline carbonates, which are entirely wanting in guano, furnish all the elements necessary to the entire wheat plant. In this view of the subject, and for many other reasons, that I cannot stop to enumerate, there cannot be, when guano is extensively used, a more judicious rotation than the Pamunky five field system

in which clover occupies a prominent place. I have now enumerated some of the most prominent means by which you may 'keep your lands rich.' I would not discourage the use of others. Science is daily making discoveries in the art of enriching the earth, and we should discard nothing, without a trial, which promises to be useful; always bearing in mind that the wisest economy is entirely consistent with the most liberal expenditure, in the purchase of manures, provided we take care, by judicious experiments and observation, to ascertain their efficacy, and that we get back our capital, with an actual *net profit, in cash*, on all our investments. This latter caution is indispensable, in our country, where new lands are so abundant and cheap, that highly improved farms can never be rated in the market at their true value."

For the Southern Planter.

INSPECTION OF GUANO.

Among the projects now before the Legislature, I have observed one which has for its object the repeal of some of the inspection laws of the State. A petition from Buckingham, headed by the venerable Major Charles Yancey, asks that the law requiring fish, lime, spirits, plaster and guano to be inspected before sold, shall be repealed; and the matter is now under consideration.

The laws regulating the first named articles have long been in operation, and their policy has seldom been questioned or doubted. The act providing for inspections of guano and plaster of paris was passed last year. It provided for two inspections, one at Richmond and the other at Petersburg. Under it, Dr. John N. Powell was appointed for Richmond and Mr. Thomas S. Pleasants for Petersburg—one of them a Democrat and the other a Whig—if the opponents of the measure deem the *political* opinions of the incumbents important to be known, or suspect that party ruled the selection.

Dr. Powell is a man well versed in his profession, largely engaged in farming, and has used guano from its first introduction up to the present time. He now expends about \$400 annually in its purchase and is a judge of the article practically as well as scientifically.—Mr. Pleasants is well known as an agricultural writer in the various journals for more than twenty years. His articles have always commanded attention, and especially those on guano, in the use of which he has had a very large experience.

Presuming, then, that no objection can be urged against the men, I ask what serious one can be sustained against the measure? It may be agreeable to *dealers* to have the inspection

abolished; but how farmers can desire such a thing—particularly those distant from the ports of entry—I cannot divine. It really seems to me that there is as much reason for doing away with inspection of flour and tobacco. It is urged that the inspection entails an additional cost which the farmer *consumer* has to pay.—Now, consider with regard to tobacco, of which the farmer is the *producer*: does he not have to pay the cost of inspection? Undoubtedly, he does; for it is deducted from the proceeds of the sale. The cost of inspecting a hoghead of tobacco, say 1500 lbs. is \$1. The cost of inspecting a ton of guano say 2000 lbs. (the short ton,) is 20 cents—a price so low that it barely pays for the expenses. Thus we find that it costs more than six times as much to inspect the one as the other.

But if it be a burden upon the farmer to have this cost of inspection added to the price he pays for his guano, I answer by asking what expense of government, of trade, or of commerce is there that is not defrayed by the producing classes, of which the agricultural constitute more than three-fourths? Can he escape the burden, if burden it be? The consumer of guano may congratulate himself that our government does not impose an *ad valorem* duty upon it, but instead of so doing is using all the powers of diplomacy to have the heavy export duty of the Peruvian Government taken off. This done, or even the duty reduced, importations of guano will be more frequent and the price of the article will fall. But does not the history of all trade in new articles of commerce assure us of an irresistible tendency to practise fraud in their sale? Where could the temptations be greater than in a high priced article like guano? All farmers are not judges of its genuineness. Some of the most intelligent have been deceived by using a spurious article. Honest dealers themselves, receiving it second hand, have been deceived, and have innocently sold adulterated stuff to their customers. Hence the necessity of inspection.

It is said, why inspect guano here, since it has already been inspected at the North?—Now, with me, the fact of its inspection at the North and passing through the hands of second and third holders, would be an additional reason for a re-inspection here; because I would rather buy it out of the hold of a ship coming direct to Norfolk, or City Point or Richmond, than from a Yankee clipper. But laying that aside, and presuming fair dealing always, do we not know what a great affinity guano has for water, and how liable it is to lose its valuable qualities by too long exposure to atmospheric air? It may be injured by storage in damp cellars, or by being flooded in a gale on the Atlantic coast, or by the careless and frequent handling of it by draymen and others. Many instances of this have occurred in the re-shipment from New York and Baltimore to Richmond. Are the farmers willing to run the risk of buying a damaged article, at full price, merely for the sake of saving a cent a pound

for inspection? If the article be injured either on the voyage from Peru, in the storehouse of the Northern importer, or in its transit to Virginia, it ought to be marked accordingly, and then the purchaser would know how to estimate its value. The law has worked well thus far. A large quantity has failed to come up to the standard of inspection, and the bags containing it have been so branded. No. 1 is worth more than No. 2, and by keeping up the inspection both farmers and dealers will soon find out the difference.

I had hoped that when an attempt to introduce scientific analysis into our State for the benefit of agriculture, had partially succeeded—that is, as far as guano and plaster are concerned—there would have been an acquiescence on the part of the opponents of the measure, at least for a short time.

A word as to plaster. We have inexhaustible beds of that useful fertilizing mineral within our own State. At present, however, they are generally inaccessible to those most desiring to use them, and hence our plaster comes from the North, almost entirely. But we are prosecuting a canal and making railroads into the heart of the counties where those plaster beds lie. We shall before many years be able to supply ourselves. The inspection of plaster will become a necessity, if we mean to buy our own Southern productions in preference to Northern; because I take it that the State of Virginia, after having spent so many millions to get at her resources, will give some advantage to her own citizens in the use of those which they particularly need. An inspection will be absolutely required in order to protect the plaster of our own mountains from that brought to our seaports in vessels. Many farmers have been taken in by buying the ground plaster which comes in tierces. It is this article with which the inspectors now have to deal. Their duty in regard to it is more important than the duty of the inspectors of lime, which also comes in tierces, and is chiefly used by mechanics, the bricklayers, stonemasons, and plasterers. The inspection of lime is generally acquiesced in. Now, if mechanics who handle an article themselves, necessarily, and who therefore have every opportunity of judging of its value or worthlessness, require an inspection before purchasing, surely the farmer, and especially all those owning large estates or numerous farms, like Major Yancey, much more requires it; for the reason that he cannot possibly examine the article which he has to use. He must leave its application to his overseers and servants, and, therefore, the plaster which they are directed to sow (if it have come in tierces and is not ground at a neighboring mill) should pass the inspector's ordeal.

To conclude, I will suppose every man a judge of guano and plaster. The large body of farmers reside at a distance from the towns where these articles are kept. Shall they be necessitated to go all the way to Richmond or

Norfolk, or any other point, in order to buy a supply? They must either become importers themselves, which is impracticable—or rely on their commission merchants, who may be no judges—or order directly from the dealers, who *may* be interested in getting off a spurious article. The farmer's safest reliance is in the continuation of the inspection.

G.

PROGRESS OF AGRICULTURE.

We are glad to see an increased interest awakening hereabout upon this subject. What was thrown out as a suggestion—we do not claim to have originated it—has become fact, and a conversational Agricultural Club has been formed at the Capital of Virginia. It is composed of members of the Legislature, of the Convention and Citizens. Several meetings have been held and were well attended. We were present at that which was held on the 30th of January in the Senate Chamber, Gen. C. Braxton in their Chair. A considerable portion of the time was consumed in arranging the Constitution and details of organization. Messrs. H. A. Wise, Edmund Ruffin, J. R. Edmunds, Dr. Maupin and others took an active part in the proceedings. Mr. Ruffin and Dr. Maupin read essays, which will be found in the next number of this journal. They will speak for themselves. Both were listened to with marked attention, and afterwards ordered to be published. The best feeling prevailed and the Club is destined, we think, to produce most beneficial results.

SALERATUS.

The Ohio Cultivator, published at Columbus, has lately had an accession to its editorial management in the person of Mrs. Josephine C. Bateham, who has assumed the chair of the "Ladies' Department." She publishes an address, in which the several Lady contributors are announced by name. We extract the following recipe, crediting it as we find it in the pages devoted to the Ladies' Department: "LIQUID SALERATUS.—Put the salts into a bottle and add water till nearly the whole is dissolved and cork up for use. A little experience will show you the quantity to use, and it insures a perfect and uniform distribution of the alkali in every part of the flour, and avoids those unsightly and disagreeable tasting spots in biscuits that can hardly be avoided when used in the early state."—*Ex.*

EXTRACTS FROM EDITOR'S CORRESPONDENCE.

"Fullon, Kentucky, January, 1851.

"I had intended sending for your Southern Planter before this, but the thief of time has hitherto stolen the privilege. Enclosed you will find one dollar. The farming interest in this portion of the West (near the mouth of the Ohio,) is looking upwards very much. We are crowded with emigrants to this vicinity. Land has increased very rapidly in price, and the productions of this county pay the sturdy farmer well for his labors."

"Roanoke Bridge, January, 1851.

"I shall advise all of my neighbors to take the Planter, as a Virginia Agricultural paper adapted to the wants of the community. I think with a little effort you might add hundreds to your list, by advertising in the political papers edited and circulating in the State, commending it to every man engaged in the cultivation of Virginia lands; advocating, as it does, the only means of restoring the worn lands—*manuring and ploughing deep*, and unceasing perseverance to accomplish the end; adding yearly to the improved land, at least manuring enough to quicken the dead land, preparatory for herdsgrass in all springy lands, and for clover in the dry. When the Danville Railroad gives us the facility of procuring lime, plaster, marl, &c. I feel confident we shall awake and do what has been too long neglected. We have on the route of the Danville road fine scenes to improve, *extensive broomsedges and hen-nest fields*, soon to be followed by Nature's restorative, (old field pine,) unless the Dagon and subsoil ploughs are put in motion. Now is the time to send the Planter to every nook (and if not superfluous, to every corner) of the State. I hope, sir, to procure more subscribers in my neighborhood."

From the Germantown Telegraph.

PEAS, A FOOD FOR HOGS.

Mr Editor,—Among the numerous articles ordinarily used as feed for swine, the pea is perhaps the most nutritious and valuable. Ground into meal, or prepared by soaking, it is scarcely possible to conceive of a more healthful or alimentary diet. When other articles are abundant, however, the pea crop is generally too valuable to be appropriated, profitably for this purpose, as the market price of good peas exceeds, considerably, that of Indian corn; but it often happens that the pea is injured by the "bug," and rendered unfit for culi-

nary purposes, and when this the case, it should be fed to swine. If you have any old peas that have remained a long time on hand, and have become mouldy, place them in a tub and pour on scalding water. This will restore them at once to their original sweetness, and render them as good for cooking as when taken originally from the pods. The cultivation of peas and oats as a feed for swine after the manner which the Germans call "mezzlin," is good economy, and deserves to be generally introduced. It is not perhaps generally known that the mixing of two grains, or two kinds of grain, after this manner, gives in almost every case, and under almost every variety of circumstances, a greater aggregate yield than would be obtained from either, if sown separate or alone. No food, perhaps, is more nutritious and stimulating than oats and pea meal, and those who have hogs to fatten, should endeavor to produce a sufficiency of it to "make their pork," without intruding upon their grain bins; and this every farmer may do with perfect ease. On good soil, the pea is a prolific bearer, and in favorable seasons, makes a good crop.

B.

Bensalem, Jan. 10, 1851.

From the Plough, Loom and Anvil.

NIGHT SOIL—ITS VALUE.

The best of all manures is the one which in our country is almost universally wasted. In Belgium, where agriculture is carried to great productiveness, they "order things differently." There, the estimate is, by *rice* calculation, that it is worth \$10 for every individual, man, woman and child. We traverse sea and land, send to Africa and South America to bring elements of fertility which at home we throw away, on every farm in the country. What an immense amount wasted in our cities! It must be the most valuable, containing the elements of all kinds of food consumed by man, and in returning these to the soil, we return the identical constituents which former crops and animals had taken from the land. Night soil contains the phosphate of lime, which is indispensable to the growth of animals' bones and to the nutriment of plants, and which is not supplied from the atmosphere, like carbonic acid and ammonia. All fluid and solid excretions should be preserved by mixing them with burnt clay, saw dust, ashes, peat or wood charcoal, &c.

—We have a great deal to learn, and alas, much more to practice, than we have learned.

From the Southern Cultivator.

MANAGEMENT OF NEGROES.

Mr. Editor,—As the proper management of our negroes is a subject not second in importance to any discussed in your columns, I hope it will not be deemed amiss if, in giving my views, I enter somewhat into detail. That on some points I shall be found to differ in opinion from some of your readers and correspondents, is to be expected. I shall not, however, object to any one's expressing his dissent, provided it be done in the spirit of kindness.

Our first obligation is undoubtedly to provide them with suitable food and clothing. Here the question arises—What is sufficient food? For as there is a difference in practice, there must be also in opinion among owners. The most common practice is to allow each hand that labors, whether man woman or child, (for a boy or girl ten years old or over, who is healthy, and growing rapidly, will eat quite as much as a full grown man or woman,) $3\frac{1}{2}$ lbs. bacon, if middling, or 4 lbs., if shoulder, per week, and bread at will; or if allowance in this also, a peck of meal is usually thought sufficient. With plenty of vegetables, this allowance is quite sufficient; but if confined to meat and bread, negroes who work hard will eat a peck and a half of meal per week.

As I live on my farm and occasionally inspect the cooking for the negroes, I see that they have enough, but nothing to waste; and I speak from personal observation, when I state, that if without vegetables they will eat this quantity.

With very little trouble we can always during spring and summer, have plenty of cabbage, kale or mustard for greens, also squashes, Irish potatoes and beans. In fall and winter sweet potatoes, turnips, pumpkins and peas. I believe there is no labor devoted to a provision crop, that pays equal to that bestowed on a plain kitchen garden. As there is no vegetable of which negroes are more fond than of the common field pea, it is well to save enough of them in the fall to have them frequently during the spring and summer. They are very nutritious; and if cooked *perfectly done*, and well seasoned with red pepper, are quite healthy. If occasionally a little molasses be added to the allowance, the cost will be but a trifle, while the negro will esteem it as a great luxury. As most persons feel a great reluctance at paying out money for little luxuries for negroes, I would suggest the propriety of sowing a small patch of wheat for their benefit. The time and labor will never be missed. Many persons are in the habit of giving out the allowance to their negroes once a week, and requiring them to do their own cooking. This plan is objectionable on various accounts. Unless better provided for taking care of their provisions than is common among negroes, some will steal the meat from others, and the loser is compelled for the remainder of the

week to live on bread, or the master must give him an additional allowance. The master can not expect full work from one who is but partially fed; while on the other hand, if he will give the loser an additional supply, the negroes soon learn to impose upon his kindness, by being intentionally careless, or by trading off their meat and pretending it has been stolen. Another objection is that some are improvident, and will get through with their whole allowance of meat before the week is gone, and consequently are a part of their time without any.

To making the negroes do their own cooking the objections are still more weighty. It encroaches upon the rest they should have both at noon and at night. The cooking being done in a hurry is badly done; being usually bunt outside while it is raw within; and consequently is unhealthy. However abundant may be their supply of vegetables, the hands have no time to cook them, and consequently are badly fed, and have not the strength to do as much labor as they could otherwise perform with comfort.

The plan pursued by the writer is, to weigh out a certain amount of meat for each day; a portion of which is given to the cook every morning, to be boiled for dinner, and with it are cooked as many vegetables and as much bread as the negroes will eat; all of which is usually divided among them by the Foreman. In the evening enough is cooked for both supper and breakfast; so that by the time we are done feeding stock, supper is ready, and the hands have only to eat and they are ready for bed. When the nights are long the meat for supper and breakfast is sometimes divided without cooking. In addition to the above, the negroes, during spring and summer, usually get plenty of milk once a day. During fall and winter the quantity of milk is more limited, and what molasses they get, they are made to *win* by picking cotton.

To make one negro cook for all is saving of time. If there be but ten hands, and these are allowed two hours at noon, one of which is employed in cooking their dinner, for all purposes of rest that hour had as well be spent in ploughing or hoeing; and would be equal to ten hours' work of one hand: whereas the fourth of that time would be sufficient for one to cook for all. As there are usually a number of negro children to be taken care of, the cook can attend to these, and see that the nurses do their duty. I would add that besides occasional personal inspection, it is made obligatory on the Overseer frequently to examine the cooking, and see that it is properly done.

One of your correspondents has endeavored to prove that lean meat is more nutritious than fat. It is, however, a well known fact that the more exhausting the labor the fatter the meat which the negro's appetite craves, and it agrees well with him. This I regard as one of the instincts of nature; and think experience is opposed to your correspondent's theory.

As to clothing, less than three suits a year of

every day clothes will not keep a negro decent, and many of them require more. Children, particularly boys, are worse than grown persons on their clothes, and consequently require more of them. I have never been able to keep a boy, from ten to sixteen years of age, decently clothed with less than four suits a year; nor would that answer, if some of the women were not compelled to do their mending. It is also important that women who work out should in addition to their usual clothing, have a change of *drawers* for winter.

As no article of water-proof, suitable for an outer garment, and sufficiently cheap for plantation use is to be had in the stores, the writer would suggest the propriety of having for each hand, a long apron with sleeves, made of cotton osnaburghs, and coated with well boiled linseed oil. In the fall, when picking cotton, this apron may be worn early in the morning until the dew dries off, then laid aside. By making it sufficiently loose across the breast, it can be used as an over-coat at any time that the negro is necessarily exposed to rain.

Patching may be done by the women of wet days when they are compelled to be in the house. Or when a breeding woman gets too heavy to go to the field, she may be made to do a general patching for all hands.

In furnishing negroes with bed clothes, it is folly to buy the common blankets, such as sell for a dollar or a dollar and a quarter. They have but little warmth or durability. One that will cost double the money will do more than four times the service.

Besides whole clothes, negroes should have *cleans* clothes, and in order to do this, they should have a little time allowed them to do their washing. As it is not convenient for all hands to wash at the same time, they may be divided into companies, and a certain evening assigned to each company. Those whose time it is to wash should be let off from the field earlier than the rest of the hands, and on that night should be free from all attention to feeding stock. The rule works equal; for those who have to do extra feeding on one night are in their turn exempt. It should, however, be an invariable rule not to allow any of them to wash on Saturday night, for they will be dirty on the Sabbath and render as an excuse that their clothes are wet. On some large plantations it is the daily business of one hand to wash and mend for the rest.

In building houses for negroes it is important to set them well up, (say 2½ or 3 feet from the ground to the sills) so as to be conveniently swept underneath. When thus elevated, if there should be any filth under them, the master or overseer, in passing can see it, and have it removed. The houses should be neat and comfortable, and as far as circumstances will allow, it looks best to have them of uniform size and appearance; 16 by 18 feet is a convenient size for a small family. If there be many children in a family a larger house will be necessary.

Many persons, in building negro houses, in order to get clay convenient for filling the hearth, and for mortar, dig a hole under the floor. As such excavations uniformly become a common receptacle for filth, which generates disease, they should by no means be allowed. In soils where the clay will make brick the saving of fuel, and the greater security against fire, render it a matter of economy to build brick chimneys. In all cases the chimneys should be extended fully two feet above the roof, that there may be less danger in discharging sparks. They are also less liable to smoke. In consequence of negro houses being but one story high, the lowness of the chimneys renders them very liable to smoke from currents of wind driving down the flue. This may be effectually prevented by the following simple precaution. Around the top of the chimney throw out a base some 8 or 10 inches wide and from the outer edge of this draw in the cap at an angle of 35 or 40 degrees with the horizon until true with the flue. No matter in what direction the wind blows, on striking this inclined plane the current will glance upwards and pass the chimney, without the possibility of blowing down it. A coat of whitewash inside and out, every summer, adds very much to the neat and comfortable appearance of the buildings and is also, by its cleansing and purifying effect, conducive to health. The cost is almost nothing, as one barrel of good lime will whitewash a dozen common sized negro houses, and any negro can put it on.

If there be not natural shades sufficient to keep the houses comfortable, a row of mulberries, or such other shades as may suit the owner's fancy, should by all means be planted in front, and so as to protect the houses on the south and southwest.

The negroes should be required to keep their houses and yards clean; and in case of neglect should receive such punishment as will be likely to insure more cleanly habits in future.

In no case should two families be allowed to occupy the same house. The crowding a number into one house is unhealthy. It breeds contention; is destructive of delicacy of feeling, and it promotes immorality between the sexes.

In addition to their dwellings, where there are a number of negroes, they should be provided with a suitable number of properly located water closets. These may contribute an income much greater than their cost, by enabling the owner to prepare poudrette; while they serve the much more important purpose of cultivating feelings of delicacy.

There should at all times be plenty of wood hauled. Surely no man of any pretensions to humanity, would require a negro, after having done a heavy day's work, to toil for a quarter or a half mile under a load of wood before he can have a fire. An economical way of supplying them with wood is to haul logs instead of small wood. This may be most conveniently done with a cart and pair of hooks, such

as are used for hauling stocks to a saw-mill. Such hooks will often come in use, and the greater convenience and expedition of hooks instead of a chain, will soon save more time than will pay for them.

The master should never establish any regulation among his slaves until he is fully convinced of its propriety and equity. Being thus convinced, and having issued his orders, implicit obedience should be required and rigidly enforced. Firmness of manner, and promptness to enforce obedience, will save much trouble, and be the means of avoiding the necessity for much whipping. The negro should feel that his master is his law-giver and judge; and yet his protector and friend, but so far above him, as never to be approached save in the most respectful manner. That where he has just cause, he may with due deference approach his master and lay before him his troubles and complaints; but not on false pretexts or trivial occasions. If the master be a tyrant, his negroes may be so much embarrassed by his presence as to be incapable of doing their work properly when he is near.

It is expected that servants should rise early enough to be at work by the time it is light.—In sections of country that are sickly it will be found conducive to health, in the fall, to make the hands eat their breakfast before going into the dew. In winter, as the days are short and nights long—it will be no encroachment upon their necessary rest to make them eat breakfast before daylight. One properly taken care of, and supplied with good tools, is certainly able to do more work than under other circumstances. While at work they should be brisk. If one is called to you, or sent from you, and he does not move briskly, chastise him at once.—If this does not answer, repeat the dose and double the quantity. When at work I have no objection to their whistling or singing some lively tune, but no *drawing* tunes are allowed in the field, for their motion is almost certain to keep time with the music.

In winter a hand may be pressed all day, but not so in summer. In the first of the spring a hand need not be allowed any more time at noon than is sufficient to eat. As the days get longer and warmer, a longer rest is necessary. In May from one and a half to two hours, in June two and a half, in July and August, three hours' rest at noon. If the day is unusually sultry, a longer time is better. When the weather is oppressive it is best for all hands to take a nap at noon. It is refreshing and they are better able to stand pressing the balance of the day. Hands by being kept out of the sun during the hottest of the day, have better health, and can do more work through the season than those who take what they call a good steady gait, and work regularly from morning till night. They will certainly last much longer.

If the corn for feeding is in the shuck the husking should be done at noon; and all corn for milling should, during summer, be shelled

at noon, that as the nights are short the hands may be ready for bed at an early hour.

If water be not convenient in the field where the hands are at work, instead of having it brought from a distance in buckets, it will be found more convenient to have a barrel fixed on wheels and carried full of water to some convenient place, and let a small boy or girl with a bucket supply the hands from the barrel. Some persons make each negro carry a jug or large gourd full of water to the field every morning and this has to serve for the day.

During fall and winter, hands may be made to pack at night what cotton has been ginned in the day. The women may be required to spin what little roping will be necessary for plough lines, and to make some heavy bed quilts for themselves. Besides this there is very little that can properly be done of nights.

One of the most important regulations on a farm is to see that the hands get plenty of sleep. They are thoughtless, and if allowed to do so, will set up late of nights. Some of them will be up at all hours, and others instead of going to bed will set on a stool or chair and nod or sleep till morning. By half past nine or ten o'clock, all hands should be in bed and unless in case of sickness or where a woman has been up with her child, if any one is caught out of bed after that hour, they should be punished.

A large sized cow bell that could be heard two miles, and would not cost more than three or four dollars, would serve not only as a signal for bed-time, but also for getting up of a morning, for ceasing work at noon, and resuming it after dinner. Where the distance to be heard is not great, a common bar of cast steel hung up by passing a wire through one end, may be struck with a hammer and will answer in place of a bell.

Most persons allow their negroes to cultivate a small crop of their own. For a number of reasons the plan is a bad one. It is next to impossible to keep them from working their crop on Sabbaths. Their labor of nights when they should be at rest. There is no saving more than to give them the same amount, for like all other animals he is only capable of doing a certain amount of labor without injury. To this point he may be worked at his regular task and any labor beyond this is an injury to both master and slave. They will pilfer to add to what corn or cotton they may have made. If they sell their crop and trade for themselves they are apt to be cheated out of a good portion of their labor. They will have many things in their possession under color of purchase which we know not whether they obtained honestly. As far as possible it is best to place temptation out of their reach. We have all their time and service, and can surely afford to furnish them with such things as they ought to have. Let us spend on them in extra presents as much as their crop (if they had one) would yield. By this means we may keep them from whiskey and supply them with articles of service to a

much greater extent than they would get if allowed to trade for themselves, while we avoid the objections above stated.

Believing that the strolling about of negroes for a week at a time during what are called Christmas holidays, is productive of much evil, the writer has set his face against the custom. Christmas is observed as a *sanctified festival*. On that day as good a dinner as the plantation will afford is served for the negroes, and they all set down to a common table, but the next day we go to work. From considerations both of morality and needful rest and recreation to the negro, I much prefer giving a week in July when the crop is laid by, to giving three days at Christmas.

On small farms where there are very few negroes, it may be proper to allow them to visit to a limited extent, but on large plantations there can be no want of society, and consequently no excuse for visiting except among themselves. If allowed to run about they will rarely ever take wives at home. The men wish an excuse for absence, that under pretext of being at their wife's house, they may run about all over the neighborhood. Let it be a settled principle that men and their wives must live together. That if they can not be suited at home they must live single, and there will be no further difficulty. If a master has a servant and no suitable one of the other sex for a companion, he had better give an extra price for such an one as his would be willing to marry, than to have one man owning the husband and another the wife. It frequently happens where husband and wife belong to different persons that one owner sells out and wishes to move. Neither is willing to part with his servant, or if one will consent, the other is not able to buy; consequently the husband and wife must part. This is a sore evil, surely much greater than restricting to the plantation in making a selection.

In the infliction of punishment it should ever be borne in mind that the object is *correction*. If the negro is humble and appears duly sensible of the impropriety of his conduct, a very moderate chastisement will answer better than a severe one. If, however, he is stubborn or impertinent or perseveres in what you *know* to be a falsehood, a slight punishment will only make bad worse. The negro should however see from your cool, yet determined manner, that it is not in consequence of your excited temper, but of his fault, and for his correction that he is punished. As a general principle the legal maxim that "it is better ninety and nine guilty persons should escape than one innocent should suffer," is correct. It, however, has its exceptions. If, for instance, the negroes take to killing your pigs, or stealing your chickens and eggs, and you cannot ascertain who are guilty, it is only necessary to put the whole crowd on half allowance of meat for a few days and the evil will end. This remedy is better than a perpetual fuss and suspicion of all.

In the intercourse of negroes among themselves, no quarreling nor opprobrious epithets, no swearing nor obscene language, should ever be allowed. Children should be required to be respectful to those who are grown, more especially to the old, and the strong should never be allowed to impose on the weak. Men should be taught that it is disgraceful to abuse or impose on the weaker sex, and if a man should so far forget and disgrace himself as to strike a woman, the woman should be made to give him the hickory and then ride him on a rail. The wife, however, should never be required to strike her husband, for fear of its unhappy influence over their future respect for, and kindness to each other.

The negroes should not be allowed to run about over the neighborhood; they should be encouraged to attend church when it is within convenient distance. Where there are pious negroes on a plantation who are so disposed, they should be allowed and encouraged to hold prayer-meetings among themselves; and where the number is too great to be accommodated in one of the negro houses, they should have a separate building for the purposes of worship. Where it can be done, the services of a minister should be procured for their special benefit. By having the appointments for preaching, at noon during Summer and at night during winter, the preacher could consult his own convenience as to the day of the week, without in the least interfering with the duties of the farm.

A word to those who think and care but little about their own soul, or the soul of the negro, and yet desire a good reputation for their children. Children are fond of the company of negroes, not only because the deference shown them makes them feel perfectly at ease, but the subjects of conversation are on a level with their capacity, while the simple tales, and the witch and ghost stories so common among negroes, excite the young imagination and enlist the feelings. If in this association the child becomes familiar with indelicate, vulgar, and lascivious manners and conversation, an impression is made upon the mind and heart, which lasts for years—perhaps for life. Could we in all cases trace effects to their real causes, I doubt not but many young men and women of respectable parentage and bright prospects who have made shipwreck of all their earthly hopes, have been led to the fatal step by the seeds of corruption, which in the days of childhood and youth were sown in their hearts by the indelicate and lascivious manners and conversation of their father's negroes. If this opinion be correct, an effort to cherish and cultivate the feelings and habits of delicacy and morality among our negroes is forcibly urged upon us by a regard for the respectability of our children, to say nothing of the prospects of both child and servant in another world and of our own responsibility when the great Master shall require an account of our stewardship.

I have given you, Mr. Editor, an outline of

my own management. If any of your correspondents will point out a more excellent way he will benefit your readers, and much oblige your friend.

TATTLER.

Sleepy Hollow, Sept. 1850.

DRAINING.

The fact is probably known to most of the readers of this paper, that in Great Britain drainage, as a principle of correct husbandry, is regarded as ranking next in importance to rotation, and that the most important improvements effected during the last half a century, have been the result, principally, of its adoption. I do not profess to be practically familiar with the subject of draining, as the locality in which my agricultural labors have generally been engrossed is of a nature that requires the application of water, (irrigation) rather than its discharge. Notwithstanding all this, I contemplate the subject as one of vital importance, and shall therefore endeavor briefly to exhibit my views of the theory of draining.

It is probably understood by most practical farmers that there are two distinct kinds of draining. These, to the readers of Von Thaer, and of other agricultural writers who have treated upon this subject, need not be specifically described; but those who profess familiarity with works of this description, will merely observe that one relates to the draining of "boggy" land, the other to that which is rendered "wet" by position, or lack of sufficient descent to pass off the water falling upon it, during showers or storms of rain, either in the spring or fall. Great disadvantages are oftentimes experienced from both causes, and much land that otherwise would be valuable for purposes of grazing or tillage, is consequently lost.

It was not till towards the close of the last century that the drainage of bogs was introduced, to any extent, in England; and with us, much as we boast of our improvements, and desirable as the object must appear to every candid and judicious mind, it has as yet been practised only on a limited scale.

In the year 1796, the British Parliament voted the sum of one thousand pounds sterling to an individual, (a Mr. Elbington) to induce him to disclose the method discovered by him of freeing low lands and boggy lands from their supernatant waters.

This being regarded as a liberal offer, Mr. E. came forward in accordance with the expressed wishes of his countrymen, and freely divulged the *modus operandi*, and the manner of its discovery. This he did to an agent expressly appointed to receive the communication by the Board of Agriculture, by whom an octavo volume with plates, giving an account of his experiments, was soon after published. A recent writer on this subject says:

"Dr. Elbington made his discovery by accident. Having occasion to drain a tract of boggy land, he cut a ditch, four feet deep, to the nearest brook; but he found that this drained only a part of the surface, without affecting the origin of the difficulty. He took a crow-bar to ascertain what the under-strata was, and struck it down into the bog to the length of the bar, and upon withdrawing it the water ran off in a steady stream into this ditch. This stream continued to run till it left the surface perfectly dry. From this circumstance he formed his theory."

All bogs, it has since been ascertained, have their origin as such, in springs, either below their surface or in near contact or proximity with their sides. In order, therefore, perfectly to drain a piece of land, it is only necessary to ascertain the locality of the supplying fountain, and to furnish for its discharge, a channel such as is required by nature; that is, one with a sufficient descent to prevent the water from standing and soaking into the soil over or through which it is required to pass. "In all cases where the springs are so elevated as to admit of their being reached by a common ditch," says our author, "drainage is accomplished by the ditch alone." In some instances, however, we are compelled to penetrate several feet below the surface, often, as many as fifteen, before striking it. A ditch of this depth, it will readily be perceived, would be a costly affair, especially if of any considerable length; but this apparently insuperable objection is easily got over by Mr. E., whose theory fully meets this and every other difficulty. "After digging the ditch, and ascertaining where the head of the spring is likely to be, he bores through the bed of the bog till he strikes the main bed of water, which, by its pressure, is immediately forced up, and runs in a continual stream until the bog is drained.

These hints are worthy of observation, particularly by those who have large tracts of wet land which require draining before they can be improved.—*Olive Branch.*

From the Knickerbocker.

THE FARMER'S ELEGY.

On the green mossy knoll, by the banks of the brook

That so long and so often hath watered his flock,

The old farmer rests in his long and last sleep,
While the waters a low lisp'ing lullaby keep:

He has ploughed his last furrow, has reaped his last grain;

No morn shall awake him from slumber again.

The bluebird sings sweet on the gay maple bough;

Its warbling oft cheered him while holding the plough:

And the robins above him hop light on the mould,

For he fed them with crumbs when the season was cold.

You treat that with fragrance is filling the air,
So rich with its blossoms so thrifty and fair,

By his own hand was planted, and well did he say,

It would live when the planter had mouldered away.

There's the well that he dug, with its water so cold,

With its wet dripping bucket so mossy and old;
No more from its depth by the patriarch drawn,

For the "pitcher is broken"—the old man is gone!

And the seat where he sat by his own cottage door,

In the still summer eve, when his labor was o'er,

With his eye on the moon and his pipe in his hand,

Dispensing his truths like a sage of the land.

'Twas a gloom given day when the old farmer died;

The stout-hearted mourned, the affectionate cried,

And the prayers of the just for his rest did ascend,

For they all lost a brother, a man, and a friend.

For upright and honest the old farmer was;
His God he revered, he respected the laws;

Though fameless he lived, he has gone where his worth

Will outshine, like pure gold, all the dross of this earth

AGRICULTURAL GEOLOGY.

Mr. Josiah Holbrook, of Brattleboro', Vermont, with the productions of whose prolific pen the Northern Agricultural journals teem, has recently commenced writing for the Washington Union on agricultural geology.

BARNUM'S AMATEUR FARMING.

In the fall of 1849, Mr. P. T. Barnum (now well known in connexion with the name of Jenny Lind) delivered an address before the Fairfield (Connecticut) Agricultural Society, of which he had been elected President. It was quite an elaborate production, and we but do the author justice when we confess to having read far worse garbage in a yet more diluted form. So soon as we received our copy we noted the two passages below and determined to present them to our readers, as too good to be lost:

Selling Potatoes.—"In the fall of 1848," said Mr. B., "my head gardener reported that I had 80 bushels of potatoes to spare. So, of course, I directed them sold. They brought 67 cents a bushel. But, like most all small farmers, he sold the largest, and left us nothing but 'small potatoes' to eat at home. But the worst is to come. In March, we had not even a dish of *small* potatoes. So we bought more than we sold, and paid \$1 25 a bushel at that! My experience, therefore, is, that a farmer had better ascertain first how much he wants for his own consumption, before he sends his produce to a cheap market."

Trimming Fruit Trees by an Amateur. Another of Mr. Barnum's experiments was in the horticultural line, and was related by him with such inimical good humor, that his large audience was nearly convulsed with laughter. "Having been elected President of the Fairfield County Agricultural Society," continued he, "I felt the importance of my having a little *practical* experience as a farmer. Having read a little about pruning, and watched my gardener awhile, I armed myself with a keen carving knife and set to work on my own hook. My first essay was upon a lot of young cherry trees. Half an hour, and my sharp knife gave them quite a symmetrical appearance, and removed all redundant limbs and sap absorbing sprouts and suckers; and I prided myself somewhat upon this first effort as a pruner, and, of course, expected suitable commendation from my gardener for the labor I had saved him. Judge my astonishment, then, as he approached with a rueful countenance, and expression of "Well, sir, you've done it now!" "Why, yes, I fancy I have. How do you like my work?" said I. "Like it! *Why, sir, you have cut off all the grafts!!*" This was a sad blow to my farming aspira-

tions. But as I never despair, I shall continue to go ahead with improvements, but shall be a little cautious how I use the pruning knife, until I learn to know a sprout from a graft.

"I hope the relation of my *experience as a farmer* wont deter many others from seeking the same employment; for if they are capable of using the pruning knife at all, I think they are capable of learning to distinguish, perhaps, at less cost than I did, the useful from the useless, and if they did not, perhaps a little sprouting, *a la mode* our young days, might help to improve their education."

SCUPPERNONG GRAPES.

The following letter, written by an intelligent North Carolinian, (Mr. Weller, we presume,) we extract from the Alabama Planter:

You ask me to state what I know of the "Scuppernong grape." My dear fellow a volume as large as a Dutch cheese would not convey to others what I know—my full experience, experiments and expenses in regard to that luxury of the old North State, the unpretending, honest, true, unrepudiating old North State! Why he who never ate scuppernong grapes perfectly matured, has no idea of God's blessing, bounty and goodness in the grape "line." Such a grape was never dreamed of in Madeira or sunny Italy; the south of France has nothing to be compared with it; Andalusia has nothing so sweet, so rich, so positively superior to all other productions of the vine.

The first vine of this name was found in Tyrrel county, North Carolina, near the banks of Scuppernong river, a small tributary of Albemarle Sound, by some of the party composing the first Anglo Saxon settlement on Roanoke Island, headed or commanded by Sir Walter Raleigh. One small vine, root and all was transplanted very soon after on Roanoke Island, where only a few years since I saw it, then in a flourishing state, owned by a man named Cuthbert, and was told by old Abraham Baum, then 84 years old, that when he was a boy the vine was the largest on the Island. It covered nearly half an acre of ground, and bore bountifully to the very extremity of the branches. It continues to grow, and only wants an extension of scaffolding.—It should never be pruned; give it room and let it run. When took thick, the covered or under small branches die, rot, crumble and fall down, making a good manure.

This superlative vine will not grow from a cutting one time in a thousand; but it is easily propagated by turning a vine to the earth, doubling it gently, and covering the double care-

fully, with rich loose soil. It takes root very soon, and the next season may be severed from the parent branch, transported in earth (the new roots) to any distance, and safely transplanted, which should be in dry, loose, but rich soil. Decomposed shells, sand, iron filings and parings of leather are admirably adapted to hasten the growth. It will bear in three years from the planting, and invariably produces better fruit when near salt water.

As a table grape, when perfectly ripe there is none equal to it. For making wine, twice as much can be made from an acre, as can be made from any grape in the world. For many years, a delicious grape cordial or preserved grape juice, has been made in the eastern and northwestern part of North Carolina. When a few years old it is very rich and sweet, and, although it is called and known as Scuppernong wine, it is not a wine, as it never is permitted to ferment, brandy being added to the juice immediately after its being expressed.—It is, when carefully prepared, a desirably rich and luscious cordial.

Various attempts have been made to make a genuine wine from the juice, without adding spirits; in only one instance, to my knowledge, has success attended the trials, and then by accident, and why good wine was the result then could not be ascertained or discovered.—The pure juice was left in a large cask, and three years after it was found reduced nearly one-half by evaporation and leakage, the remaining liquid being a wine of the very best description. Samples were sent to New York, Baltimore and Charleston, where the most accomplished wine bibbers of the day, without knowing what it was, pronounced it most excellent indeed, and worth four dollars per gallon.

The same process has since then been followed, as nearly as possible, but the liquid has been found always after the lapse of years something like hard cider. But that good wine can be made from the grape, there is no doubt. That this grape will flourish and bear well in any region near the Gulf, in Florida, Alabama, Louisiana and Texas, there is no doubt; and that in every respect, it is a most superior grape, there is no doubt. It must not be planted in low, wet, or marshy grounds. Sandy, hilly, shelly, loamy soils, where the influence of the sea atmosphere can be felt, is decidedly the best. Have I said enough for you?

Dr. R. T. Baldwin, of Winchester, has brought out another of his "shade" articles in "The Plough, the Loom and the Anvil," for December. He appears more than convinced of the truth of the theory he has advanced, and says, "It is no longer a mooted question in the Valley of Virginia that *all soils alike may be made exceedingly fertile by shade alone.*" The positions of Dr. B. will probably be again examined in the Planter.

For the Southern Planter.

SPIKEY ROLLER.

Still let me country culture scan,
My farm's my home—my brother man—
And God is every where.

Mr. Editor,—I would advise our estimable friend, of Dunluc, not to be too sanguine, for he has no more knowledge of J. Y. of O. than had the English people of the individual who said to them, "*stat nominis umbra*." You must excuse my vanity and egotism, for I cannot otherwise express myself. I know full well he will, being a man of heart as well as letters, and could he but know the pleasure with which I comply, as far as I can, with his request, by the instinct of an infallible sympathy, I can readily imagine what emotions must fill his kindly bosom.

The roller is thus constructed: Three sets of arms pass at right angles through a shaft twelve inches square, five feet long—the arms being sufficiently stout to admit of having firmly attached to them, by pins and nails, felloes broad enough to nail, zigzag, the slats composing the cylinder, to prevent splitting. These felloes should be three inches wide, at least; also the slats three by two, five feet long, and jointed so as to form the circle around the whole like the staves of a tierce. The slats should project but a short distance beyond the outside set of arms and felloes, to prevent breaking off. Wing gudgeons, two inches in diameter, are let into the ends of the shaft, which should be well boarded, and the frame should be close enough to the ends behind to keep the roller clean as it revolves. A tongue and hounds, as to a wagon, constitute part of the frame; and also a board behind for the driver to stand on. The machine stands five feet high when completed, and boxes can be appended to the sides and front of the frame, in which stones, bricks, or earth may be put to increase the weight of the roller, as desired. Two good horses can work this roller, but they should be shifted or rested frequently. I shifted mine four times a day. The axle of this roller being nearly on a direct line with the power applied to it, and the bulk presented to the ploughed surface being so much greater than that of a stone, solid iron or wooden roller, that would bury in the soft ground, whilst the work is equally well done, there is all the difference imaginable in the draught. The rolling should succeed the ploughing or harrowing as soon as practicable, to receive its full benefit; and I omitted in my November communication to say that land rolled in the fall should be rolled again in the spring; this operation being rendered necessary by the heaving, of which Col. Roane speaks. This should be done whilst the ground is dry—by no means when wet.

I confess my inability to answer our friend's inquiry relative to the affinity of ammonia for

water, air, or soil; but a gentleman of science, now engaged in a variety of chemical experiments, will inform me satisfactorily on this subject, the result of which I will communicate through your valuable paper.

"In point of fact," my experience in guano is limited to what I said formerly, and I am yet to see the person that has used it with decided advantage on improved lands. On the contrary, its most beneficial effects have been produced on those confessedly poor. Now the land on which our friend tried his experiments is what is termed good, and to my certain knowledge, much of it fine land—having been long since undergoing the process of improvement under his skilful application of marl, putrescent manures, enclosing, &c. and he is far more entitled to give than to receive lessons on farming and husbandry. I ask you and him to excuse the prolixity and awkwardness used in this communication.

Yours, &c.

JOEL YOUNGER.

Oberlin, Jan. 13, 1851.

P. S.—Heart white oak should be used in making this roller, being heavier, less destructible, and in every respect better adapted to the purpose than any other timber. If properly made, and due care observed with it, many generations may have its use. After being thoroughly seasoned, it should be painted well.
J. Y.

PROF. NORTON ON INDIAN CORN.

Mr. John P. Norton is the Chemico-Agricultural Professor at Yale College, and is now editing an American edition of Stephens' "Farmers' Guide"—a valuable work written with an eye to the husbandry of the British Isles. This work is divided into four parts, denominated after the seasons, and to each part Professor Norton affixes an appendix intended to adapt the book to the practice of American agriculturists. With all due respect for Professor Norton's abilities as evinced by his books and his communications to the agricultural journals, we regard this as the least successful of his efforts, so far as our own South is concerned. But his task is not over, and we have more to see and read.

The appendix to that part of the book entitled "Spring" concludes as follows:

"Any notes, however brief, upon American agriculture, would seem incomplete without at least a few words relative to the cultivation of our greatest national crop—Indian corn. This is a chief article of produce from north to south, and from east to west. The varieties

cultivated in Canada, and the Northern States generally, while less imposing in appearance, produce equally well with the large Southern varieties, having stalks from twelve to sixteen feet in length.

"Indeed the premium crops at the North are usually larger than those that we hear of at the South, while the average product per acre of New York, Ohio, and other Northern States, is, to say the least, quite as high as that of Tennessee, Virginia, Kentucky, and the other great corn growing States of the South. The aggregate amount of the crop for the whole Union is enormous, being probably near six hundred millions of bushels in a favorable year."

This remark, here so broadly made, we have often heard made before and without contradiction, we never could bring ourselves to believe. Most of the corn in those portions of the Northern States, where the remark would certainly apply, is cultivated in small lots, or what we would term such. But there is many a farm in those States whereon as sorry crops are to be found as amongst us. Our best corn crops are not generally seen while growing by those who judge us. The export of corn from Virginia, for instance, is no criterion whatever for estimating the extent of the crop; because our consumption is so enormous, and we might add, wasteful. Much of our crop never sees the inside of a corn crib. Abroad, persons are apt to estimate our acres under cultivation far above the mark. The marshes of Eastern Virginia and the waste land (once under crop) would constitute an empire for a prince, whilst Western Virginia affords almost boundless forests never touched by a freeman's hand.

The aggregate production of the Union, as above estimated, will be more than reached by the census of 1850. At the last census it was 377,531,875.

"April and May are the months for planting corn at the North. It is seldom that much is done before the 15th of April, and it occasionally runs rather far into June. The previous cultivation should not differ materially from that previously described as best for potatoes, the great aim being to secure a deep and mellow soil. The land is generally ploughed during the preceding autumn, and then cross-ploughed in spring. Many, however, prefer planting immediately upon the turf, turning it over flat, and harrowing until a good depth of fine mould is secured. Excellent crops may be grown in this way, but if the turf is not turned entirely over, or if it

is disturbed by the harrows, the field is apt to be very grassy and weedy. On the Western prairies a boy is sometimes set to follow the plough, and drop seed in every other furrow; the next furrow is turned over upon it, thus laying the grass side on the corn. This is called a sod crop, and could only be successful, even in an ordinary degree, upon land naturally very light and mellow. In some places it is the practice, when ploughing grass land for Indian corn, to turn two furrows in opposite directions, so that they meet together and form a broad ridge, leaving the turf under them undisturbed. The corn is planted on these ridges, and is often quite good, but the practice is extremely slovenly. The crop is inevitably grassy, unless the greatest care is taken in cleaning, and that is not to be expected from farmers who pursue such a system: a portion of the ground, nearly half, in fact, is left undisturbed, so that the roots only penetrate it with difficulty, if at all.

"The custom of manuring corn in the hill, after the same manner that I have mentioned under the head of potatoes, is happily fast becoming obsolete. The manure is now either spread broadcast before ploughing, or placed in drills, the former being the prevalent mode. Heavy manuring is essential to this crop on most land; but where the soil is already very fertile, there is some danger of forcing too luxuriant a growth of stalks and leaves, so that the ears are small and ill ripened. This is particularly to be feared on such land when highly nitrogenous manures are added; inorganic manures might, at the same time, prove beneficial.

"If the land is poor, and not well manured, a distance of three feet between the hills seems advisable. In the opposite case, two feet and a half in one direction by two in the other, is not uncommon; although three feet between the rows seems better, as admitting light and air more freely, and also the passage of a cultivator between the rows in one direction. It has even been planted at distances of a foot in the rows, and very heavy crops have been thus obtained, but only by the use of a variety having a small stalk, upon a remarkably rich soil, and with the concurrence of a very favorable season. In all ordinary cases, such thick planting only produces a great burden of stalks and leaves, with little corn, and that of an inferior quality.

"Two and a half feet in the rows, and three feet between them, seem proper distances to recommend for good soils at the North; the Southern varieties are so large that three, four, and even five feet, are always left between the hills in each direction.

"Marking the rows with a marker is fast becoming universal; the appearance of the crop is not only neater, but its cultivation easier and more effective, for the reason that all horse implements pass readily through the rows at a gauged width, the only care being to keep the horse in a straight line.

"I have already, under the proper head, mentioned the necessity of a good machine for dropping corn in hills at equal intervals, and have described one which seemed well adapted to the correct performance of this operation.

"The soaking of Indian corn, for twelve hours before planting, promotes the rapidity and certainty of its vegetation. If left in water so long as to sprout, there is danger of its perishing in case a few days of dry weather succeeded the planting. Various steepes have been found beneficial. Nitrate of potash, or saltpetre, a little common salt, or a small proportion of sulphate of iron or copperas, have been frequently used with marked effect; muriate of ammonia is another good ingredient of this steep. An excellent practice is to roll the seeds, while yet moist from the steep, in plaster of Paris; some also recommend a covering of tar previous to applying the plaster, in order to keep off crows. There is some danger of making a thick, hard coating in this way, that will prevent the seed from sprouting, being both water and air proof.

"A small quantity of plaster, or of plaster and ashes mixed, also occasionally a little lime is often thrown upon each hill of corn after the first hoeing, in the same manner and with the same effect that has been mentioned under the head of potatoes. About a gill is applied to each hill."

Most of us would find this rather a troublesome process, if we had the materials at hand. And, moreover, is Professor N. certain that lime and plaster act well together, *when thus applied?*

"Care is well bestowed in the selection of seed for this important crop. For this purpose early and well formed ears, from stalks having at least two each, should be selected in the field, picked, and kept by themselves in a dry place, until required for use. The seed corn should then be taken from the middle of the cob alone, leaving that which covers an inch or two on each end as inferior. This latter fact has been proved by a variety of experiments."

Further than this, the *top* ear should be always preferred.

"As might be expected, the varieties of corn are very numerous. I shall only notice a few of those that are most prominent.

"At the North, yellow varieties greatly predominate, while at the South, we find more commonly the white, having seeds of superior size. Many varieties are only designated by the number of rows on the cob: there is the eight-rowed white flint, the eight-rowed yellow flint, the six rowed, the twelve-rowed, &c.; some kinds even go as high as sixteen rows, but in this case the seed is small, and the cob very large in proportion.

"Other kinds are named from the shape of their seed. Thus, a number of varieties of gourd-seed corn are in great repute at the South and West. These have a remarkably large seed, lighter and more farinaceous than the flint varieties generally cultivated at the North, making also a whiter and more tasteless meal."

This China tree corn was introduced here at the South some eleven or twelve years ago, and was tried. We know of no one who continues to use it, although so many were willing to pay *twenty-five cents per ear for the seed*.

"A variety called the China tree corn has been highly spoken of at the South, but I have never seen it. It is said to produce a very unusual amount of leaves, and is, therefore, valuable for fodder. The small Canada corn has been extensively introduced at the North, but it is too diminutive a variety to compete with others almost equally hardy and early in ripening, and which are at the same time far more productive: such are the Dutton and the Brown.

"The Dutton corn is extensively cultivated, but seems, in many districts at least, to have passed the acme of its popularity. Its cob is very large, and to this is, doubtless, to be ascribed a part of its present disfavor. These large cobs are difficult to dry thoroughly when the corn is stacked before husking, or piled in the crib before shelling.

"In bad seasons this peculiarity prevents its early drying, and frequently causes it to mould. I think the deterioration in this variety is owing, in a good degree, to carelessness in the selection of seed, and to mixture with inferior kinds. It is probable that careful cultivation for a few years would restore much of its original celebrity, as I have visited many farms where it does not seem to have lost ground at all.

"A variety which has gained much favor in some sections within the last few years, has been called the Brown corn, from the name of its originator, a farmer on one of the islands in Lake Winipissigee. It was produced by careful cultivation in a high latitude, and for successive years, of selected seed from the common eight-rowed yellow corn. The but-ends of the cobs are small, and the points entirely covered with kernels. The ears are from ten to thirteen inches in length, the stalk medium size, and prolific. More than a hundred bushels per acre have been grown. From all that I have seen and heard of this variety, I am inclined to think that we have few that surpass it.

"The Oregon and the Baden varieties have been cultivated with success at the South.—The Golden Sioux, the King Philip, and the Yellow Dent, are Northern yellow varieties. The Rhode Island White Flint and the Tuscarora, are two of the white kinds that have

found favor at the North. The Dutton corn is said to be an improved variety of the Golden Sioux."

Many other varieties might be mentioned in addition to the above. We name only two, with both of which we are well acquainted. The "Maryland twin corn," as it is called, is a very productive variety. It is now extensively cultivated on the lower James, York river and its tributaries. The other variety is well known in this vicinity, to which it was first sent twenty-one years ago from the county of Bedford. It is prolific and especially remarkable for the whiteness of its meal.

From the Prairie Farmer.

ELEMENTS OF SCIENTIFIC AGRICULTURE.

Such is the title of a little work of 200 pages, written by John P. Norton, Professor of Scientific Agriculture in Yale College; and published by Erastus A. Pease & Co. Albany, New York.

Of the qualifications of Professor Norton to speak on such matters this journal has already spoken. We have already said, that of all writers on what is called "Scientific Agriculture," from Professor Liebig down to—we do not know where to fix the nethermost limit—we prefer him, as being the most practical, the least hobbyish, and as best adapting his teachings to the popular comprehension. Of this opinion the work before is entirely confirmatory. We have read it through, with unflinching interest, from beginning to end; a feat, that despite the sternest resolution, we have often been unable to accomplish with books of similar import. It not only contains an abundance of the "elements" of agriculture, scientifically considered, but they are presented in a way open to the comprehension of any man of ordinary common sense, and common acquirements. It is in fact a book of pleasant reading, whether the information it imparts is to be used or not.

Thus much for the general character of the work; let us turn to its particulars.—Plants are divided into an *organic* and an *inorganic* part. The way of dividing the one from the other is by fire. That which *burns* and is lost in burning is the organic, and that which is left as ashes when the burning is done, is the inorganic part. The inorganic portion of plants is by far the

largest; comprising ordinarily from 90 to 97 lbs. in every hundred. What becomes in burning of this inorganic matter? It is driven off into the *air*, and is lost; it, in fact, becomes *air*. We can then take a quantity of solid timber and turn 90 of every 100 parts of it into air, simply by the use of fire. If then this timber can be turned into air, it is plain it was made *from the air at first*. It then becomes important to know from what sort of air it was made. There are four sorts, known by the names, Carbon, Oxygen, Nitrogen and Hydrogen.—These four constitute the whole organic parts of plants of every sort; comprising, as was before said, from 90 to 97 parts of every 100.

The inorganic parts of plants, or the ashes, though so much less in quantity, contain a far greater number of elements. Potash, soda, lime, magnesia, oxyde of iron, oxyde of manganese, silica, chlorine sulphuric acid, and phosphoric acid, are all found in plants, though not always all of them in the same plant. They are of as much importance too as the four sorts of air or gas, at first named. The quantity of ashes obtained from different plants differ in quantity and quality; and the proportion found in the same plant also differs. The bark and leaves of a tree contain a larger proportion than the wood.

How then do plants get their food? that is, whence, and how, do they obtain both these sorts of materials, which go to build them up? They obtain them from two sources—the atmosphere and the soil, and by two instrumentalities, their roots and their leaves. The inorganic food is all taken by the roots, while the organic is received in both ways. Much of their food is also taken, not pure, but in combination with other substances, and is elaborated by the plant itself. Carbon, which is the first of the organic elements, and of which every plant contains a large proportion, is supplied in the shape of carbonic acid gas, which exists in the atmosphere, and is absorbed by the leaves. These are full of pores by which this gas is taken up; and as it consists of carbon and oxygen, the first is retained, and the latter ejected. Carbon is also obtained by plants from the soil by the roots. Oxygen and hydrogen are also taken up by the leaves. Nitrogen, of which our later chemists make a great deal, and which in degree is necessary to vegetation, is thought to be taken up mostly through the roots, either as ammonia, or as nitric acid, of both of which it is a constituent.

But although the organic elements of plants are but four; the substances found in the plants are many. We have oils and sugars, many of each, starch and the substances, with the ten thousand tastes and odors known to the vegetable world.

It is not only true that plants contain these two classes of elements, viz: the organic and the inorganic, but the same elements are found in the *soil*. A good soil will contain in itself those substances which are wanted in the plants it is to produce. If rye, or wheat, or Indian corn is to be grown upon a particular field, that field must contain the matters which are found in wheat, rye or Indian corn. Can anything be plainer? The mode of separating the organic and inorganic parts of the soil is the same as for separating them in plants, viz: by fire. But while the proportion of ashes from plants is but from seven to ten in the hundred, that proportion is reversed in the soil; for its incombustible parts are generally as many as ninety or ninety-five in the hundred. There are peat lands where the organic parts are largest; but these are exceptions. The organic parts of the soil are composed of precisely the same elements as those of plants, and the same is true of the inorganic. Professor Norton gives the following table, as showing at a single view, what soils of different sorts possess, and what they should possess to be fertile.

	Soil fertile without manure.	Soil fertile with manure.	Very barren.
Organic matter,	9.7	5.0	4.0
Silica,	64.8	83.3	77.8
Alumina,	5.7	5.1	9.1
Lime,	5.9	1.8	.4
Magnesia,	.9	.8	.1
Oxyde of Iron,	6.1	3.0	8.1
Oxyde of Manganese,	.1	.3	.9
Potash,	.2		
Soda,	.4		
Chlorine,	.2		
Sulphuric Acid,	.2	.1	
Phosphoric Acid,	.4	.2	
Carbonic Acid,	4.0	.4	
Loss during analysis,	1.4		.4

The above substances being found, both in the soil and in the plants which grow from it, the conclusion is obvious. It will be noticed that several of the elements here enumerated, are only in very small quantities in the fertile soil. It must not be inferred that their presence is therefore unnecessary; since these are the very matters wanting in the barren soil.

When it is ascertained that a soil is barren or infertile, the next thing is to remedy the difficulty by the application of the missing substances. Hitherto this has been mostly a work of experiment; and experiment, it must be acknowledged, has in common cases done very well; since the application of barn-yard manures, containing, as they do, most or all of the materials that are wanting, is the very best thing to be done.

There is however one difficulty other than the lack of proper ingredients, which will infallibly render any soil barren. This is the presence of too much water. This acts in various ways to prevent fertility.—It chokes the soil, and prevents the admission of the air, which is essential as we have already seen to fertility; it lowers also, by the same means—the temperature of the soil. Consequently the decay of organic substances is arrested, and various bad acids accumulate, rendering the soil in popular language *sour*. Land therefore to be fertile must be *dry* not only at the surface but to the depth to which roots ordinarily run. Our author presents the proper mode of effecting this; but which we will not now consider, reserving it to a future occasion.

The following table is presented showing the proportion in which the organic elements are contained in some of the common plants:

	Peas.	Beans.	Wheat.
Silica,	0.56	1.48	1.92
Iron,	0.68	0.34	0.53
Lime,	2.96	5.38	3.02
Magnesia,	7.75	7.35	13.58
Phosphoric Acid,	38.34	35.33	45.44
Sulphuric Acid,	2.63	2.28	
Potash,	27.12	21.71	24.18
Soda,	17.43	21.07	10.34
Chloride of Sodium,	1.88	3.32	
	99.35	98.26	99.11

It is a singular fact, that on whatever soil these or other grains, or plants, are grown, they contain about the same elements. They will have what they want or nothing; they cannot be put off with substitutes.

It will be seen in the above table that the composition of different plants differs from each other; some containing more phosphoric acid, some more potash, and some more lime. When, therefore, one crop fails, on a particular piece of land, it is no certain indication, as those know who know nothing of chemistry, that some other cannot be grown. This lies at the founda-

tion of *rotation of crops*, by which the fertility of the soil is preserved.

In respect to the elements in the soil which the different crops consume, they may be divided into classes. In the grains, phosphoric acid predominates. In the roots, potash and soda; and in the grasses, lime is a leading constituent. This division shows us what should be the leading distinction in a rotation. It should be between grains, grasses, and roots. These again, as we have seen, differ in composition from each other; and the kinds of each should be alternated among themselves.

Thus far, this is very plain and evident work; but there is one difficulty which may have occurred to the reader, and that is, how is the farmer to know what the difficulty may be when he finds his lands infertile? how shall he know which or how many of the elements in the table are missing? The reply is, he must have resort to the chemist; and here our author puts in a special caution that the farmer apply to one who is competent for his work; since a mistake may involve heavy outlay and disappointment. The analysis of a soil, he describes as a very delicate operation; requiring much time, care, and especial skill. In this advice we concur. Such is the difficulty attending the subject, that we have sometimes been inclined to think that no practical analysis could be of the least use; since errors as regards the least constituents of the soil are the worst of any. There has been also another difficulty in this analysis of soils, very puzzling to practical men.—Chemists themselves have not been agreed as to the results or aims of their analyses. Hence one would give us so much crenic and apocrenic acids; while another describes the constituents as laid down in this book; and still another has a third set of terms to mark the extreme of his analysis. What could anybody know about it while chemists could not come out at the same place, after all their delving about in the fogs and nitrogen and carbons?

Professor Norton's examinations have a plain and *reasonable* look. The terms he uses are such as ordinarily well read people know something of. In short, he comes as near as he can to meet the plain yeoman; and when he can get no nearer to him, he beckons him with a familiar nod and smile to come over and be acquainted.

Had "Scientific Agriculture" begun ten years ago, where it is now in this book, a thousand men would know something of it ten years hence where one will now.

From the New England Farmer.

COLTS.

Of all our domestic animals, the horse stands in the foremost rank. Although steam and railroads have lessened the necessity of his aid, they have not lessened his value in the market, or the pleasure which he still affords to those not so much bent on business and gold, as amusement and healthy exercise.

The labors of the horse seem to be changing from year to year, and have in some degree been mitigated. If we look back but a few years, we find him traveling the bark-mill from morning till night; and before the invention of steam engines and railroads, he was destined to perform the very arduous labors of the stage-coach, in the duties of which, from high feeding and hard driving, he was soon worn out. But the modern application of steam seems to be sent in mercy for his relief. If steam has not entirely superseded the use of the horse for the work, it has certainly very much curtailed the requirement of this kind of labor. He is now mostly used for pleasure riding, and short excursions, requiring the cultivation of different features and qualities than those heretofore demanded. Speed and activity are the qualities sought for now, in place of strength of body and limb, which is better fitted for the draught.

The horse is susceptible of the most perfect training, and can be made to know your wishes almost before they are expressed, and possessing great activity and strength, when properly encouraged, will use them to the utmost of his power. The attachment of the horse to his master is well known, and a reciprocity of feeling between the horse and his keeper is frequently very great; but we are sorry to know he is sometimes most grossly and wantonly abused.

The horse, though, when kindly treated, will manifest great attachment and perfect obedience, submitting to severe labors, will sometimes exhibit great and provoking obstinacy. This leads to cruelty, and sometimes unmerciful beating.

From experience and observation, we are fully satisfied that whipping only increases the difficulty, and makes him more obstinate. Although it is somewhat difficult to command one's temper, when the horse, knowing your wishes, persists in refusing to obey, still I am satisfied that kindness will sooner bring him to obedience than an opposite course of treatment.

When in full health and plight, he will be as fond of moving forward as you are to have him do so. A little patience is much better than the whip. We once asked a horse-dealer how we should manage a contrary horse. He replied "Never let him know but that he behaves just as you want to have him."

Horses are often made vicious in breaking, as it is called, and in training, when young, by bad management. In breaking colts into the harness, they should never know that they can break away. When convenient, the younger you begin with them the better. Accustom them gradually to the halter and harness.

The halter, in the first place, should be so strong that they cannot break it when made fast to a substantial post. They will seldom try its strength more than once or twice; and the same with any part of a harness. If they find they can break a halter, it is seldom forgotten, and becomes a very vicious habit. After two years old, they may be placed by the side of a steady horse, and afterwards in a light carriage, followed up every day for some little length of time.

In shoeing the first time, be sure you get a good, strong smith, that will hold the foot as long as he wishes; not too long at first, lest he should be weary. Horses are not unfrequently very troublesome through life by a fault in first shoeing.

The signs of a good road horse, and for speed, are a small head, a short back, and flat legs. Something may be known by the countenance, which cannot well be described. A bright full eye, wide nostrils, and a wide projecting forehead, may be considered some of the signs of courage and long wind. The color of horses depends somewhat upon fancy; but bay, dapple gray and black are the most preferred in our country.

Now, let us bespeak for this noble animal kind treatment, good keeping, and light burdens. With such gentle usage, the horse will love and serve you faithfully for twenty-five, forty, and even fifty years. Do not maim or disfigure him by the cruel practice of pricking, nicking, or even cutting off a single hair, which the Author of Nature has furnished him with for his special accommodation. And good taste will require, that in his natural garb and form, he actually shows the best, and is the most comfortable to himself. Curry and groom him every day, and give him a blanket and a warm stable in cold weather, and clean

straw to lie on. Talk to and with him, for he will soon understand your language, and manifest signs of recognition, or the tenor, at least, of your words.

REMARKS ON BREEDING.

As an illustration of the effects of *in-and-in* breeding, the following instance is related to us as having occurred in a particular neighborhood in this county. A farmer of a sour, unsocial disposition, who as much as possible avoided all intercourse with the rest of the world, and shunned asking the slightest favor of a neighbor, lest he might at some time be desired to reciprocate the kindness shown him, for a long series of years, bred his cattle entirely from his own stock. In consequence of this course, such a herd of misshapen, ungainly, big-headed quadrupeds were produced that they could scarcely be recognised as belonging to the cattle kind; and "—'s wolverines" were for a long time the butt of ridicule in the whole vicinity.

The careful breeder, upon either system, will avoid using, even for a single season, any animal possessing obvious defects; for such defects, once introduced in but the slightest degree, are liable to be transmitted and re-appear even after several generations have passed. To the many curious and valuable facts already on record relating to this subject, the following may be added:—A portion of the fowls possessed by Constant Clapp, Esq., were formerly of the "downy" breed. But this variety, so strongly marked, had run out and entirely disappeared from his premises for eight years, when three of these downy individuals, perfect in every particular, re-appeared among his flock—showing that the blood, though apparently obliterated, had yet been lurking there, generation after generation.

It was a favorite theory with the late distinguished General Schuyler, a man of extensive observation, of deep penetration, and sound judgment, that the true character, either of a man or beast, could be ascertained by looking at the parentage from which he had descended; and as an illustration of this, he used humorously to relate the incident, that in the early years of the Dutch trade with the East Indies, one of his ancestors, being a sea captain, had gone thither, and returned with a wife—a Mongolian lady, whom he had married in his absence. And the blood

of that cross continued still to cling to the descendants two centuries afterwards, despite of all their efforts to eradicate it—so that down to the present day, in one branch and another of the family, one of these confounded East Indians would occasionally be making his appearance!—*Trans. N. York Ag. Society.*

From the Berkshire (Mass.) Culturist.

RUSSIAN SUPERSTITION ABOUT POTATOES.

When potatoes were introduced into Russia, towards the end of the last century, the people conceived a great dislike to them and called them the "Devil's fruit," on account of some foolish tales that had been told of this now almost indispensable edible. One story was, that they were created on purpose for the Devil, when he complained on being turned out of the garden that he had no fruit. He was told to dig for it which he did and found potatoes. Hence the common people of Russia, who are very superstitious, would neither plant nor eat them at first.

There is a curious and somewhat similar tale in Scotland, about the introduction of potatoes into that country, at a period long before that assigned in history, for their introduction by Sir Walter Raleigh.

The legend is, that one Michael Scott, who was called the Wizard of the North, entered into a compact with the Devil to rent a farm in partnership. The Devil was to furnish money and the wizard do the labor, giving him alternate crops. That is, the first year he was to have all that grew below the surface and the next year all that grew above, and the wizard the other part. Thinking to outwit the Devil, he planted all his land in wheat the first year, and all in potatoes the next, so the Devil got nothing but stubble and vines. But he beat the wizard at last, for the severe system of cropping exhausted the land, so the wizard could neither raise wheat nor potatoes, and was obliged to grow more honest to his land as well as to his landlord.

It would be well for some farmers at the present day, who follow the same dishonest course, in the cultivation of rented land, as well as their own, to take the hint or they may find themselves in a fair way of being ruined.

Some of the first cultivators of potatoes

picked and eat the balls, and conceived a violent dislike to the new kind of fruit, and at once said potatoes were good for nothing. Opinions have very much changed since then. R.

From the Alabama Planter.

NORTHERN PEACH TREES.

It appears that in the last year or two, there has been almost an entire failure in the fruiting of all the peach trees brought from the north, east and west; in consequence of which, public opinion seems now to set strongly against them; and whether this opinion has been properly founded or not, is a matter that I think deserves some examination, which I will very briefly attempt to do.

Every body who have cultivated northern peach trees, have not failed to observe how tenaciously they cling to their northern habit of blooming late in the spring, and to this very fact is to be attributed all the failures that have occurred, so far as I have observed.

In the spring of 1849, my northern peach trees began to blossom about the last of March, and 1st of April, and on the 15th, and 16th of April, the weather was nearly as cold as at any time during the previous winter, which, as a matter of course, killed all the young fruit that had shed the blossom, as well as all that was in bloom.

In the spring of this year (1850) my northern peach trees were more tardy in preparing to blossom than they were last year. About the 20th of March, I could just discover that the fruit buds had began to swell a little. Eight days after this, (28th March) we had an excessively cold day and night; this severe cold, as might have been expected, killed all the fruit in the bud. I had a greater number of trees loaded with fruit buds, nearly ready to open, and so dead were they killed, that they remained in that half expanded state until they were forced off by a general rush of sap late in the spring. I examined a great many of those fruit buds with my knife, and found that they were perfectly dead.

I think the foregoing observations will sufficiently explain the failure of last year and this year, with our northern peaches.

Our native peach trees always blossom very early in the spring, very often in February, and to this alone were they indebted

both last year and this year for their partial success. The main and only drawback to our success with our northern peaches, is certainly to be found in their late habit of blooming. And if we can invent any plan by which we can coax them to blossom two or three weeks sooner in the spring, we can have plenty of the very finest peaches.

ENGLISH AND AMERICAN LANDSCAPES.

Mr. Downing, in his letters from England, makes the following remarks on the difference between English and American landscapes:

"The chief difference, after all, between an English rural landscape and one in the older and better cultivated parts of the United States, is almost wholly in the universality of verdant hedges, and the total absence of all other fences. The hedges (for the most part of hawthorn) divide all the farm-fields, and line all the roadsides—and even the borders of the railways, in all parts of the country. I was quite satisfied with the truth of this conjecture, when I came, accidentally, in my drive yesterday, upon a little spot of a few rods—where the hedges had been destroyed, and a temporary post and rail fence, like those at home, put in their place. The whole thing was lowered at once to the harshness and rickety aspect of a farm at home. The majority of the farm hedges are only trimmed once a year—in winter—and therefore have, perhaps, a more natural and picturesque look than the more carefully trimmed hedges of the gardens. Hence, for a farm hedge, a plant should be chosen that will grow thick of itself, with only this single annual clipping, and which will adapt itself to all soils. I am therefore confirmed in my belief, that the buckthorn is the farmer's hedge plant for America, and I am also satisfied that it will make a better and far more durable hedge than the hawthorn does, even here.

Though England is beautifully wooded, yet the great preponderance of the English elm—a tree wanting in grace, and only grand when very old, renders an English roadside landscape in this respect, one of less sylvan beauty than our finest scenery of like character at home. The American elm, with its fine drooping branches, is rarely or never seen here, and there is none of that *variety* of foliage which we

have in the United States. For this reason (leaving out of sight rail fences,) I do not think even the drives through Warwickshire so full of rural beauty as those in the valley of the Connecticut—which they most resemble. In June our meadows there are as verdant, and our trees incomparably more varied and beautiful. On the other hand, you must remember that here, wealth and long civilization have so refined and perfected the details, that in this respect there is no comparison—nothing in short to be done but to admire and enjoy. For instance, for a circuit of eight or ten miles or more here, between Leamington and Warwick and Stratford-on-Avon, the roads, which are admirable, are regularly sprinkled every dry day in summer, while along the railroads the sides are cultivated with grass, or farm crops, or flowers, almost to the very rails.

GARDEN MANURES.

Frequent complaints are made by those who are limited in their gardening operations, that whatever manures they do apply to their gardens, burn up their crops when the heat of summer comes on. We have felt this inconvenience too, and in looking around to find a remedy, have come to the conclusion that whenever a garden requires active stimulating manures, they should be applied in the fall or winter; in this way, rank stable manure may be applied and spaded, or ploughed under immediately. It will have become by spring the proper food of plants, and as all manures leach *upwards*, the surface soil will be in fine condition for the growth of vegetables; whereas if the manure is applied at planting time, especially the crude manures generally applied here, just as vegetables are most required, they are fired by the action of the sun on the manure, and the gardener is mortified to find his labor and money thrown away. Whatever manures are applied in the spring, should be well rotted or of a cooling nature. There are many families that annually waste a barrel or two of leached ashes, when had it been applied to the garden *patch*, they would have had "yearly yorks" as well as their neighbors. The soap suds from the wash tub is a manure that may be applied with safety, and with profit in the spring, and yet how few ever use them, except to enrich the earth around their kitchens, and make loathsome mudholes,

when perfumed flowers, luscious fruits, and mammoth vegetables, might have been made by them. We do not yet properly appreciate the importance of a garden. The bearing that it has upon the happiness and health of a family, is plainly perceptible whenever we find a well conducted garden; how highly important then that we should understand the proper food of plants. He would certainly be a mad physician who would give his fevered patients stimulants to raise the fever higher and higher, until vitality was consumed. So with the gardener, plants are frequently stimulated to death, for the want of proper cooling food. Our garden soils can scarcely be too rich, but it must be a richness retentive of moisture, and not as would be the case if the stable manure was applied in the spring—be a richness which burned everything in contact with it. Be, then, for your wagons and your wheelbarrows, load them up, and cover your gardens quickly; plough them up, turn the manure under, and when the early seed time comes, you need not fear but a harvest will follow.—*Southern Recorder*.

For the Southern Planter.

PLASTER ON WHEAT AND GRASS.

It has been my practice for several years past to plaster my wheat and grass, and as I have been invariably benefited by its use, when others have supposed that they ruined their crop of wheat by its use alone, I will state the cause of my success and of their failure. Most farmers postpone applying it until March or April to wheat, and their wheat is invariably rusted, unless we have a dry spell about the time it is filling. From close examination for several years past I have found that plaster has not time to *dissolve* when applied in the spring, until the wheat gets to be about *two feet* in height; then the ground being kept moist the plaster dissolves, and causes a sort of second growth in the stalk and blades of the wheat, and the first hot, moist day, *rust* appears, and the wheat actually bleeds to death. Those who use plaster (and every farmer should) on wheat, must apply it at the rate of a half or a bushel per acre as soon as possible after seeding. It should never be applied after the first of January. January or February is the best time to apply it to grass. If applied early it has time to dissolve, and brings on the grass much sooner. Those who apply plaster late in the spring to grass will find it about the *roots* at mowing time just as it was when sown. If applied to wheat as soon as it is *up* it has nearly the same effect as a top-

dressing of manure. It makes it ripen earlier than it would without it. Deep ploughing, early seeding, an early application of plaster, with a judicious system of grazing, will most invariably insure a good yield of wheat. I am aware that many differ with me, but this is the result of experience on my part, and it can pass for what it is worth.

I. I. H.

Anherst, Jan. 20, 1851.

From the American Agriculturist.

STEAM PLOUGHING.

We subjoin some excellent suggestions from C. W. Hoskyns, on the subject of steam ploughing, which we find in a late number of the *Agricultural Gazette*. That a wide departure is to be made from the present mode of ploughing, whenever the steam engine shall be substituted, we have not the slightest doubt. There is a serious injury to the subsoil from the use of the plough, as there is a pressure upon it equal to the weight of the implement, the entire superincumbent furrow to be lifted, and the force required for dividing the uplifted mass of earth from the stationary portion below. In some fields that have long been subjected to cultivation, at uniform depth, the surface of the subsoil has nearly the density of a stratum of rock. This opposes a serious obstacle to the progress of roots, and materially lessens the growth and amount of the crop.

There is a conservative or counteracting effect produced at, or near the surface, by the action of frosts and the elements, by which the particles of the soil are so effectually separated, that when dug from a hole and again, (however carefully and lightly,) returned to it, they fail to fill up the space before occupied. But we believe this is seldom the case with the subsoil.

The principle suggested by Mr. Hoskyns, has, as an experiment only, (for we are not aware of its adoption as a practical matter,) been for some years introduced into France, and perhaps into England and elsewhere; and we have had a small cultivator constructed on the same principle, which, however, has justly failed to command any favorable attention. Thus we are left just as far from any utilitarian discovery as before. But to the quotation. Mr. H. says: I hold it to be an idea *fundamentally erroneous* to attempt to combine steam machinery with the plough.

And I hope I am not presumptuous in repeating my conviction, that, until the idea of the plough and in a word, of all *draught-cultivation* is utterly abandoned, no effective progress will be made in the application of steam to the tilling of the earth. I repeat what I have said before, that ploughing is a mere *contrivance for applying animal power to tillage*. Get out of animal power, and you leave ploughing behind *altogether*. Get into steam power, and you have no more to do with the plough, than a horse has to do with a spade. It is *no essential whatever* of cultivation that it should be done by the *traction of the implement*. Spade work is perpendicular. Horse work is horizontal. Machine work is circular.

Whoever would now dream of retaining the form of the hand flail in the threshing machine, or that of the oar in a steamship, or of putting the piston rod to work at the lever end of a pump handle? Yet doubtless these bastard attempts were all made in their day, till the several inventors had come to see in turn that

"'Tis good to be *off with the old love*
Before ye be on wi' the new!"

I am aware that I am repeating myself, unavoidably, in all this; but no one can imagine, without trying it, the difficulty of making the mechanical part of the question intelligible to the agriculturist, and the agricultural part to the machinist. The steam engine has no taste whatever for straight draught. He is a *revolutionist*, in the most exact sense of the word. He *works* by revolution; and by revolution only will he cut up the soil into a seed bed, of the pattern required, be it coarse or fine. And *that*, it is my firm belief, he will be seen doing at a handsome average, before a very large portion of another century shall have passed over our heads. Why should it not be? Why should not a strip, or lair, of earth be cut up into fine tilth *at one operation*. (and sown and covered in, too,) as easily as a circular saw cuts a plank into sawdust? As to employing a steam engine to turn a drum, to wind up a rope, to drag a plough, to turn up a furrow, and all this as a mere prelude for an after amusement to all the ancient tribe of harrows, scufflers, rollers, and clod crushers, to do supplementally the real work of cultivation, it reminds one of "the house that Jack built." One can hardly blame the iron ribs of any respectable boiler for burst-

ing at the first pull at a task so utterly at variance with every known law of mechanical advancement, so offensive to the economics, I had almost said the very ethics of the steam engine.

I trust I may be forgiven for so boldly speaking; but I am sorry to think of one useful shilling being thrown away in the attempt, unprofitable, even if successful, of harnessing steam with horse harness, to do horse work in a horse's way; the implement itself, whose wretched work it is put to accomplish, being a tool with the sentence of death written upon it, (be it as ancient as it may,) for its tyranny to the subsoil, which bears the whole burden and injury of its laborious blundering path.

I say the plough has sentence of death written upon it, *because it is essentially imperfect*. What it does is little towards the work of cultivation; but that little is tainted by a radical imperfection—damage to the subsoil, which is bruised and hardened by the share, in an exact ratio with the weight of soil lifted, *plus* that of the force required to effect the cleavage, and the weight of the instrument itself. Were there no other reason for saying it than this, this alone would entitle the philosophic machinist to say, and see, that the plough was never meant to be immortal. The mere invention of the *subsoiler* is a standing commentary on the mischief done by the plough.

Why then should we struggle for its survival under the new dynasty of steam? The true object is not to perpetuate, but as soon as possible, to get rid of it. Why poke an instrument seven or eight inches under the clod, to tear it up in a lump by main force, for *other instruments to act upon*, toiling and sweating and treading it down again, in ponderous attempts at cultivation wholesale—when by simple *abrasion of the surface* by a revolving-toothed instrument, with a span as broad as the hay-tedding machine, or Crosskill's clod crusher, you can perform the *complete work of comminution* in the most light, compendious, and perfect detail?

Imagine such an instrument, (*not rolling on the ground*,) performing *independent revolutions behind* its locomotive, cutting its way down by surface abrasion, into a semicircular trench about a foot and a half wide, throwing back the pulverized soil (just as it flies back from the feet of a dog scratching at a rabbit hole;) then imagine the locomotive moving forward on the hard ground with a slow and equable mechanical motion, the revolver behind, with its

cutting points, (case hardened,) playing upon the *edge*, or *land side* of the trench, as it advances, and capable of any adjustment to coarse or fine cutting, moving *always forward* and leaving behind perfectly granulated and precisely *inverted*, by its revolving action, a seed bed seven or eight inches deep, *never to be gone over again* by any after implement except the drill, which had much better follow at once, attached behind with a light brush harrow to cover the seed.

Why did steam reject the *pump handle* and the *oar*? Because in both the leverage is obtained by loss of labor and time, occurring during the back movement of the handle, a movement necessary to the manual, but not to the mechanical agent. For the same reason, whenever it is applied to till the earth, it will antiquate every instrument that *cultivates by traction*, because traction is not only unnecessary to cultivation, but is inherently mischievous on other grounds, apart from the clumsiness, inaccuracy and incompleteness of the work it turns out.

But the stones! There is much fear expressed for the teeth of the circular cutting implement I have described, when they come in contact with stones. The objection would have been equally valid, at first sight, against the plough or the scuffler.—Let me see the instrument in use where there are *no stones*—(and there are plenty of broad acres in England of this class)—and it will not be long before it gets upon the others. If it cost five pounds an acre to clear them out, it must be done, and would in such case, well pay to do it. But the truth is, that the instrument itself suggests the kind of machine, which, with a little adaptation, (greater power and slower motion,) might perform this preliminary service at the least expense. If land is to be like a garden in one respect, I see no good reason why it should not in all. I do not think stones will stand long in the way of steam, nor be readily preferred to bread; if, *where there happen to be none*, a steam-driven cultivator can be brought to bear, which, after the simple and beautiful example of *the mole*, shall play out the long comedy of our present field cultivation in a *single act*, present a finely granulated seed bed by a single process, almost at the hour required, and trammel up the long summer fallow into the labor of a day, with an accuracy as perfect as the turning of a lathe, and an aeration, (and consequent oxygenation,) of the soil as diffusive and

minute as that of a scattered mole heap, or the dust flying from a steam-saw bench.

Implement makers and mechanicians would not be long in understanding all this, if they were not under the supposition, received at second hand by them, and therefore the more difficult to eradicate, that ploughing is a necessary form of cultivation to be kept in view. Once let them be made fully to perceive that ploughing is merely the first of a long series of *means* towards the accomplishment of a particular end, that end being the production of a *seed bed*, of suitable depth and texture, and with the soil as nearly as possible inverted in its bed—and I do not think they will be long setting the steam engine about its proper task, in the proper way. But their attention is distracted, at present, from the end to the means. They are taught to think that the plough is a *sine qua non*—that steam cultivation of necessity implies steam ploughing, and they are led to give up the task in despair, because they are at fault upon a false scent.

We have many *rolling* implements employed in the field, but we have only one instance of a *revolving* implement. The clod crusher and the Norwegian harrow *roll*, the hay-tedding machine, (one of the best instruments ever invented,) *revolves*. I use the words arbitrarily, but the difference I allude to is very important. The first are liable to the evil of clogging; because they derive their axis motion *from the soil* as they pass over and *press upon* it. This action must not be confounded with that of a machine which *has its cause of revolution within itself*, independent, and acting *upon* the soil as a circular saw acts upon a board, or the paddle wheel of a steamer, upon the water. The teeth of a saw clear themselves, by the centrifugal motion they communicate to the particles they have detached from the substance they act upon. A circular cultivator, steam driven, will do the same, for I have proved it. It does so more effectually according to the speed, (of revolution,) and the state of moisture of the soil. This last incident is as it should be; for it is not desirable that a clay soil should be dealt with when in an improper state for cultivation; and one great advantage of such an instrument as I point to would be that it would so greatly enlarge the choice of a suitable period, by its compendious accomplishment of the whole work of culture.

To illustrate still further the subject of steam ploughing, we append from a late

English paper, a description of a new arrangement with steam ploughs. We look, however, upon all the experiments, rather with the *wish* than the *hope*, that anything hitherto attempted, will prove effectual for accomplishing the object.

The engine moves across the centre of the field on a light, portable railway. The ploughs advance and recede on either side of the railway, at right angles to it.

The ploughs employed consist of four ordinary and four subsoil ploughs, fixed in a frame. They are directed by a person standing upon a small platform.

Two such ploughs, one on either side the railway, alternately advance and recede; the advancing plough working, and the other idle until it regains its proper position for ploughing the next four furrows. On the completion of the four furrows both ways, the engine and side frame advance each three feet.

The ploughs are attached to an endless chain, one hundred and fifty yards in length. They can be detached at pleasure, or shifted from one side of the chain to the other. They travel at the rate of *five miles an hour*. Provision is made in case they strike against any impediment.

Arrangements are made to suit irregularly shaped fields and to increase or diminish the number of ploughs, if necessary.

In the present state of things, it is difficult to form a correct estimate of the value of the invention in a commercial point of view. I will only say that a machine of the power, and with the arrangement described, would perform the work usually done by *sixteen* ploughs, driven by as many men, and drawn by thirty-two horses. Requiring itself the attendance of eight men, and a horse to draw the water for the engine, it would thus save the labor of thirty-two horses and eight men. Against this must be set an expense of five shillings a day for coals.

From the Plough, Loom and Anvil.

THE CULTIVATION OF THE APPLE.

As there is no neglect in matters of domestic comfort and economy, more glaring, nor one, perhaps, more characteristic of our country, than the failure of farmers in many of the States to provide an abundance of *good fruit*, at least for their own table—nor one that we have, for thirty years, more pointedly exposed; there would seem to be a propriety in occasionally publishing *good directions for planting*

and managing fruit trees. What follows as respects the apple, seems to be of that character, but there, as every where, the thought recurs, that various and good fruit, is rarely or never to be found in any abundance, for general enjoyment, except where population is thick, and that cannot happen, *where all are engaged at one pursuit*. There must be *diversity and good returns* to labor. There are probably, twenty thousand masons, at least in New York, within a circle of three or four miles; but how long could they remain there, to buy the farmer's good fruit and melons, berries, milk and potatoes, were the other pursuits to decline and those who follow them to disappear from the city, leaving the masons to themselves? So should we have, throughout our own country, all who are now employed in Europe in fabricating for our use and consumption, iron from ore, cloth from wool, glass from sand and lime pottery from clay, and so with a thousand other things, whereof the raw materials so much abound with us. No nation possessing such materials can ever wisely or economically go abroad for the manufactures produced from them. God intended international commerce to be supported by the interchange between different countries, of the things he gave to one and not to the other—but where He gave the raw materials of a manufacture He intended in His benevolence, to make it a matter of controversy between nations, not which should give to labor the least reward, but by which should labor be best rewarded and most elevated, so that to that point labor should be most strongly attracted, and the arts advance fastest under the strongest stimulus. Any other supposition is an impious impeachment of the goodness of Providence.

To return to our subject, he who wants to see and to enjoy fruits, aye, and flowers too: in their greatest variety and excellence, must turn his face and go to the bleak North, and he will reach what he seeks only when he comes into the cold, dreary, sandy and rocky lands of Massachusetts, where every trade is carried on, and where men have had the sagacity to avail themselves of steam and machinery, to *multiply a thousand times their own natural capabilities*—there the first thought of every farmer, is to provide himself an *abundant supply of good, wholesome, delicious fruit*; both as a matter of economy and as a matter of luxury; well knowing that, for any surplus he may have, a market is at hand, in the demand created by the presence of industrious thriving classes, who are otherwise employed, and have neither land nor fruit.

The apple amongst fruits, appears to hold the same rank as wheat among cerealia, or potatoes among roots; it is not a luxury only; from habit it has become almost one of the necessities of life, and so deserves our attention. The apple is recorded to have been first introduced into England by Leonard Mascall, in the reign of Henry the VIII. The only fruits

indigenous to Britain, were, we are told, the acorn, the sloe, the hazel nut, and the crab; and although cultivation and skill have produced an almost unlimited number of varieties of them, yet the seeds or kernels of our best apples, when sown, naturally reproduce the original parent fruit—the crab or wilding, as the filbert also does the common hazel nut.

Botany however, teaches us that we can obtain apples from the blossoms of any sorts we choose to inoculate together, with almost as much certainty as to the result as in crossing different races of cattle.

Apples are propagated by seed. The kernels sown in February or March, in mild weather, the earlier the better, on clear light ground. They should be sown in beds three or four feet wide, covering them about an inch deep with earth. They will be fit to transplant the following Michaelmas, or spring, and in about five or six years fruit may be expected.

Apples may, however, be raised from seed in the short space of four years by the following mode—Sow the kernels in separate pots in November, and place them in a green-house during winter; they will vegetate in February; at midsummer the plants should be moved into a seed-bed, in rows about fourteen inches apart. In the autumn of the following year, transplant them into a nursery, at the distance of six feet; every succeeding winter prune away all small lateral shoots, leaving the stronger laterals to the bottom, and so disposing the branches, that the leaves of the upper shoots may not shade those beneath.

Grafting I prefer to be done while the stock is young, and in the nursery, as the graft being put into the stock, about one foot from the earth, becomes in fact the stem of the future tree, and is not liable to be broken off by high winds or split by a heavy crop of fruit, as is sometimes the case in cleft-grafting, when the stock is older. Splice-grafting on small trees is also more certain; not one graft in twenty ought to fail; and if the land is kept, as it should be, in high condition, they will shoot from two to five feet, and in two, or at most in three years, be fit for the orchard. I exhibit a young tree grafted the 10th of April last, now five feet high, and three-quarters of an inch in circumference. Grafts may be sent any distance, by the simple plan of inserting the lower end in a potatoe. In 1836 I brought home apple and crab grafts from the farthest settled part of Canada. I was two months travelling home; they came perfectly fresh, and have since borne fruit. The potatoes I exhibit to day are descended from those I brought home with the grafts stuck in them eight years since.

Budding is an operation that may be performed even earlier than splice-grafting, and has the advantage of not materially injuring the stock should it fail, which if done in proper season, (August or September,) will scarcely be the case to the amount of one per cent. There appears to exist an analogy in animal

and vegetable life in many things; thus, the natural decay of individual families, not only of man but of the inferior animals, has its parallel in the history of the apple. There are some kinds of old fruit that cannot be kept long in a healthy state—they strike readily from the graft, flourish for a few years, and then begin to canker, and die back one year what they grew the preceding. Of these I will mention the russet, orange pippin, orange pearmain, and golden pippin; and there are symptoms of decline in young trees grafted with that very generally useful apple the bromley. I have tried most of these old sorts on the most vigorous young stocks, both by budding and grafting, but the seeds of degeneracy and decay are transmitted from the parent tree, so that premature decline and disappointment is the consequence. This predisposition to decay also appears to invite that pest to nurseries and orchards, the alphis or American blight; the best remedy I know of is simply to cut out the infected part with a keen knife, and afterwards wash the stem or bough with strong soap-suds applied with a brush and well rubbed in.

The site of an orchard should be near the dwelling house, on good quality of soil, and rich deep land, with a subsoil either naturally dryer that can be made so by draining. Soil on which the elm grows freely is, we may be sure, fit for the growth of the apple or pear. No foot-path or road should cross the orchard, and an impenetrable fence of hedge and ditch, or better still, a strong stone wall should surround it. Previous to planting, the distances between the trees should be fixed on, and the whole field laid out in right-angled lines, a straight stake being placed at each intersection. Thus only can the trees be planted in lines so as to be perfectly straight when viewed in any direction; and while the planting is proceeding, a person whose eye can be depended on should superintend it from various parts of the field, previous to the earth being filled in—as a single mistake of a few inches will throw all out of square. By this method the greatest number of trees can be planted in a given space, so as to afford to each an equal space to occupy with roots and branches, besides the advantage of passing with carts or wagons to carry hay or collect fruit; or if the field be arable, the plough can thus cross in any direction, so as to leave but a narrow portion untilled.

As regards distance, some persons who have written on planting orchards recommend the trees to stand twenty-two yards from each other; but from my own observation and experience, I think half that distance (that is, 33 feet) will, on the average of land and seasons, produce more fruit, and the trees will come earlier into bearing. An orchard on pasture land (and there are few arable in Gloucestershire) should be appropriated to the specific purpose of a fruit manufactory, the under crop of grass being quite a secondary consideration.

The best orchard I know, as a constant bearer, is one where the branches of the trees meet each other in every direction, and shade the whole ground. I account for this by considering that there are no intervals for the keen winds of spring to find a current through, so as to check the sap; and, provided the orchard is exposed to the full influence of the sun, and on the south side, I do not think it can be too much sheltered from every other quarter.

A probable reason for earlier bearing in an orchard thickly planted would be that the trees have less space for their roots to extend: and as a tree seldom produces much new wood and fruit at the same time, it seems a reasonable conclusion, that as there is not much surplus sap to form new shoots, blossom-buds will be formed instead; and as nurserymen tell us, that if by any means we can once cause a tree to produce fruit, it will after continue the habit, and as we do not require apple trees for timber, a diameter of 33 feet is large enough for the head of a fruit tree.

Having determined to plant an orchard, the first thing to be prepared ready for transplanting is a heap of compost formed of old turf, slaked lime, and farm yard manure; these should be well turned and mixed together during the spring and summer preceding, so as to form a mass of material resembling the mole-casts on deep good land—indeed, could a sufficient quantity of this be obtained, it would at once form the material required. The holes should be dug in the winter, so as to expose the soil to the action of the frost. If the sub-soil be clay, the earth should be cast in three divisions round the hole, so as to place separately the turf, the second quality of soil, and the sub-soil clay—the latter to be spread or carted off. The second quality should then be returned into the holes, the turf chopped fine and levelled on it, and it will then be fit for the reception of the roots of the tree—about a wheelbarrowful of the compost to each tree being within reach of the planters.

Far too little pains are generally taken in the important operation of planting. To do this well, three persons should always be employed—a lad to hold the tree upright; a man kneeling, to manage the roots, spreading them with the ends inclining a little upward, while the third levels the prepared soil underneath them, so that when loosed they may be nearly horizontal, and radiating even on all sides from the stem, like the spokes of a wheel; more soil should then be levelled amongst them with the hand, while the tree is slightly shaken, taking care that the crown of the roots shall not be below the level of the surface of the ground. The roots will at length be covered with mould, and the man who had the care of them, best knowing their position, should tread the mould over them. The treading should be firmly not violently done—the heel of the shoe first coming in contact with the soil on the outside of the hole, and the toe will then

gradually press the earth to the centre of the roots. This is very different to the usual method of throwing in coarse clods, and stamping on them so as to form a puddle of clay impenetrable to water, as I have often seen done in planting. I am aware that trees so planted will, if the roots are good and the stock healthy, after a struggle for a year or two, overcome these impediments, but by following the rules I have laid down, there will be scarcely a check to its growth.

The planting being completed, the tree should be defended from cattle, high winds and other casualties, by two stakes one each side, with two cross bars at top and two at bottom: a piece of tar twine passing across them and round the tree prevents the wind from moving it out of place, until the roots are well established. On pasture land it will be necessary to have upright paling nailed to the bars, reaching from the root to the head, which, if of a proper height, (that is about six feet,) is thus securely protected. I prefer February as the time for planting. Mild, serene weather, if possible, is to be chosen, and all the necessary operations should be going on at the same time, under the personal superintendence of the master. One trusty person should prune the injured parts of the tree, and cut off all broken roots, and such as are inclined to become tap or perpendicular ones, forming at the same time with his knife a fair balance in the proportion of root and top, the former rather preponderating, and the tree should pass at once out of his hands into those of the three planters; these should be followed the same day by the persons employed to fence the trees (the materials for which they should be ready prepared) so as to leave all finished and secure at night. Should this be neglected, and a wet windy night succeed, injury will be done that cannot be remedied.

The trees if purchased of a nurseryman, should be selected in September, and marked with the buyer's name on parchment shreds. A liberal price being paid, few nurserymen would object to their stock being picked out, and the best plants of the season are thus secured with more certainty as to sorts. The day for planting being fixed, an order for the trees to be ready one day before will bring them fresh to hand, and the neglect of this produces more failure than any other cause. If the stocks are reared at home, they should be taken up and replanted the same day. To give a list of fruits would be an endless task, and produce, I think, little practical good—the same apple in different localities bearing frequently different names.

ACCEPTABLE PRESENT.

Our thanks are due to Col. W. M. Woods of Nelson for a barrel of luscious Pippins, raised on his farm. They are similar to the

variety known as the "Albemarle," but the Colonel claims them as *Nelson* Pippins, because raised in that county. The honor of producing such fine apples is worthy of being contended for by any county. We can assure our generous friend that full justice has been done to this "offering of his first fruits"—and, if we were not afraid of being called greedy, like Oliver Twist, we would ask for "more."

No apple in the world, in richness of flavor and all the qualities of good eating fruit, is superior to the pippin raised in Albemarle, Nelson, &c.; and we have been often surprised that our fruit dealers imported so great a quantity from the North, when they might obtain a better article at home. But, we suppose, it is like it is in every thing else. Virginia can or will do nothing for herself if foreign producers will supply her demands. This ought not to be. She must ever remain in a state of commercial vassalage, unless she will rely more upon her own resources and depend less upon others. Virginia merchants should give preference in their purchases to Virginia farmers, especially when the home production is equal to the foreign, and the farmer should act upon the same rule. By such reciprocity both would be benefited. At all events, Virginia ought not to be dependant upon the North for apples, and we hope that Col. Woods may find his orchard a source of profit beyond his most sanguine anticipations.

VIRGINIA AND TENNESSEE RAILROAD.

This important work, destined, as we believe, to form a connexion between Memphis on the Mississippi and tide-water Virginia, and to afford the means of rapid transit from that point to Richmond, Petersburg, Norfolk, and perhaps York river, is steadily advancing not only in public favor, but in the actual execution of some of the most difficult portions of the undertaking. During the past summer, we had an opportunity of observing the substantial manner in which the grading thus far has been executed. It will be a road for use, and if the present plans are carried out, will stand the brunt of the heaviest transportation. The cars and machinery for the road are in the course of construction here in Virginia, and Mr. J. R. Anderson of Richmond is build-

ing nine locomotives, to be put on when the superstructure shall be ready.

The corporation of Richmond has recently subscribed \$100,000 to the prosecution of the road beyond Salem, and the State has put an important spoke in the wheel by its subscription (of three-fifths) to the capital stock of the South side railroad which will connect it with Petersburg direct, and with Richmond through the Danville road.

The census statistics are not yet published; and we cannot therefore give a statement of the agricultural resources of the counties through which the road will be located. But looking at the returns of the population, we find an increase beyond the expectations of the most sanguine well wishers of the South-Western Virginia. Lynchburg itself, in her streets, shews thrice the bustling activity of business, in proportion to population, that Richmond does, and her trade, or we should rather say the agricultural resources which create that trade, is continually increasing. Campbell county shows a gain of about 18 per cent. in population over the census of 1840; Bedford 19; Roanoke 55; Montgomery 14; Floyd 46; Wythe 33; Smythe 25; Pulaski 36½; Washington 12½; Carroll and Grayson 39; Tazewell 58. These are only the chief counties which will be tapped by this road. Others are within a short distance of its track. If such an increase of population has taken place without facilities of getting to market, what may we not anticipate when the means of cheap transportation are placed at every man's door? We take it that the managers of this road mean to pursue the liberal policy towards the farmers which they have indicated, and not rely for the support of the work upon the rapidity with which they may be able to whirl passengers from border to border through our State. The Commonwealth of Virginia will have outpoured her treasure upon a bootless object, if a really useful enterprise, in design, be converted into a mere apparatus for getting people to Philadelphia and New York in a hurry.

The distance from Lynchburg to the State line is 210 miles. Mr. Garnett, the Engineer, states that the proper charge for transporting wheat will be 7 cents per bushel for 100 miles and 10 cents for 200 miles; which is certainly very liberal. A large amount of salt and plas-

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COMMERCIAL RECORD.

WHOLESALE PRICES CURRENT,

Reported for the Southern Planter by

NANCE & GOOCH, COMMISSION MERCHANTS.

TOBACCO—New Leaf \$7 50 to \$14. Lugs \$3 to \$7 50. Old Leaf \$10 to \$15. Average sales about \$12. Lugs from \$8 to \$10. Prices have declined since our last report, owing to a disposition among holders to realize, and the large quantity of new in bad order forced upon the market. Sales in foreign markets since our last report limited in amount, but at satisfactory prices. We advise planters to prize in good keeping order, neither too dry to open freely, nor so soft as to endanger its preservation in sweet condition.

FLOUR—Richmond Canal \$4 62½. Scottsville \$1 75

WHEAT—From \$1 to \$1 10 for white.

CORN—67 cts.

GUANO—\$50 per 2000 lbs. for Peruvian.

SALT—\$1 75.

FISH—Herrings, Cut \$6 75 to \$7. Mackerel, No. 1, \$9. No. 2, \$8 50 No. 3, \$6.

BACON—Virginia cured 10 cents hog round.

Richmond, February 19th, 1851.

ORANGE PLANTS—For Hedges. A few thousand raised by myself for sale.

WM. H. RICHARDSON.

Richmond, Dec. 10, 1850—31.

AGRICULTURE.—New works and supplies on Agriculture, and subjects connected with the Farmer's interests.

Lectures on Practical Agriculture, by Jas. F. W. Johnston.

Farmer's Encyclopædia, by Cuthbert W. Johnson. This book should form a part of every farmer's library.

American Farm Book, on soils, manures, drainings, irrigation, grasses, grain, roots, fruits, cotton, tobacco, sugar cane, rice, and every staple product of the United States—more than 100 engravings, by R. L. Allen.

American Agriculturist, for the farmer, planter, stock breeder, and horticulturist, by A. B. Allen; numerous plates,

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Application of Chemistry and Geology to Agriculture, by J. F. W. Johnston.

Lectures on Agricultural Chemistry, by A. Petzholt.

American Husbandry, series of essays on Agriculture, with additions by Willis Gaylord and Luther Tucker.

Armstrong on Agriculture.

A Muck Manual, for farmers, by S. L. Dana.

Teschemacher's Elements of Horticulture.

Farmers' Land Measurer, with a set of useful Agricultural tables, by Jas. Pedder.

Farmers' Manual, with the most recent discoveries in Agricultural Chemistry by F. Falkner.

Productive Farming, with the recent discovery of Liebig, Johnstone, Davy, and others.

A Treatise on Agricultural Chemistry, by C. Squarey, Chemist.

Chemistry applied to Agriculture, by J. A. Chaptal.

Rural Economy, or Chemistry applied to Agriculture, by J. B. Boussingault; with notes by George Law.

Family and Kitchen Gardener, by R. Buist.

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Complete Gardener and Florist.

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Richmond, Dec. 10, 1850—31.